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highlights

PART I:

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Executive order permitting certain qualified employees in Space Shuttle Astronaut Program to be given career or career-conditional appointment.................................. 2499

NONDISCRIMINATION
SBA proposes to list types of Federal financial assistance and statutes authorizing such assistance; comments by 2-11-77 2506

COASTAL ZONE MANAGEMENT PROGRAM
Commerce/NOAA extends comment period to 2-7-77 on program development grants regulations.................. 2507

MARINE MAMMALS
Commerce/NOAA issues notice of receipt of application for permit by Fisherman's Marketing Association of Washington; comments by 2-11-77.................................. 2520

BASIC EDUCATIONAL OPPORTUNITY GRANTS
HEW/OE gives notice of closing date of 3-15-77 for receipt of applications for the 1976-77 academic year.... 2542

SAVINGS AND LOAN ASSOCIATIONS
FHLBB proposal relating to public information; comments by 2-14-77.. 2503

PRIVACY ACT
Commerce publishes notice of adoption of additional systems of records; adoption of new routing use for existing system of records; and proposal for new routing use 2521

ENDANGERED AND THREATENED SPECIES
Interior/FWS proposes status for 41 U.S. species of fauna; comments by 4-12-77.. 2507

MEETINGS—
- CRC: Virginia Advisory Committee, 1-28-77................ 2516
- ERDA: Procurement Policy Advisory Committee, 1-27-77 2524
- HEW: National Professional Standards Review Council, 1-24 and 1-25-77.. 2543
  - OE: National Advisory Council on Indian Education, 1-27 thru 1-29-77.. 2541
  - PHS: Immunization Practices Advisory Committee, 1-14-77 2543

CONTINUED INSIDE

AGENCY PUBLICATION ON ASSIGNED DAYS OF THE WEEK

The six-month trial period ended August 6. The program is being continued on a voluntary basis (see OFR notice, 41 FR 32914, August 6, 1976). The following agencies have agreed to remain in the program:

Monday	Tuesday	Wednesday	Thursday	Friday
NRC	USDA/ASCS		NRC	USDA/ASCS
DOT/COAST GUARD	USDA/APHIS		DOT/COAST GUARD	USDA/APHIS
DOT/NHTSA	USDA/FNS		DOT/NHTSA	USDA/FNS
DOT/FAA	USDA/REA		DOT/FAA	USDA/REA
DOT/OHMO	CSC		DOT/OHMO	CSC
DOT/OPSO	LABOR		DOT/OPSO	LABOR
	HEW/FDA			HEW/FDA

Documents normally scheduled on a day that will be a Federal holiday will be published the next work day following the holiday.

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ATTENTION: For questions, corrections, or requests for information please see the list of telephone numbers appearing on opposite page.

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FEDERAL REGISTER, Daily Issue:	
Subscriptions and distribution	202–783–3238
"Dial · a · Regulation" (recorded summary of highlighted documents appearing in next day's issue).	202–523–5022
Scheduling of documents for publication.	523–5220
Copies of documents appearing in the Federal Register.	523–5240
Corrections	523–5286
Public Inspection Desk	523–5215
Finding Aids	523–5227
Public Briefings: "How To Use the Federal Register."	523–5282
Code of Federal Regulations (CFR)	523–5266
Finding Aids	523–5227

PRESIDENTIAL PAPERS:	
Executive Orders and Proclamations.	523–5233
Weekly Compilation of Presidential Documents.	523–5235
Public Papers of the Presidents	523–5235
Index	523–5235
PUBLIC LAWS:	
Public Law dates and numbers	523–5237
Slip Laws	523–5237
U.S. Statutes at Large	523–5237
Index	523–5237
U.S. Government Manual	523–5230
Automation	523–5240
Special Projects	523–5240

HIGHLIGHTS—Continued

Office of Science and Technology Policy: Intergovernmental Science, Engineering and Technology Advisory Panel, 1–28–77 2544

President's Committee on Science and Technology, 2–1 and 2–2–77 2544

AMENDED MEETING—

HEW/ADAMHA: National Advisory Mental Health Council, 1–24 thru 1–26–77 2541

CHANGED MEETING—

DOD: Defense Science Board Task Force on Net Technical Assessment, 2–3 and 2–4–77 2524

PART II:

ADMINISTRATIVE PROCEDURES

DOD/Engineers proposes implementation of the Sunshine Act pertaining to public meetings of Mississippi River Commission; comments by 2–14–77 2571

PART III:

MOBILE HOMES

HUD/CA&RF adopts procedures pertaining to consumer complaint handling and remedial action; effective 2–11–77 2575

PART IV:

TOXIC POLLUTANT EFFLUENT STANDARDS

EPA adopts standards for aldrin/dieldrin, DDT (DDD, DDE), endrin, toxaphene and benzidine (2 documents); effective 1–12–77 .... 2588, 2617

PART V:

FEDERAL ELECTIONS

FEC publishes notices concerning policy statement on contributions; advisory opinion requests; and establishment of Clearinghouse Advisory Committee (3 documents) 2623

PART VI:

PENDING LEGAL PROCEEDINGS:

CFTC requires contract markets to notify Commission; effective 2–15–77 2627

PART VII:

PATENTS

Commerce/PTO proposes changes relating to implementation of the Patent Coöperation Treaty regarding secrecy of certain inventions and licenses to file applications in foreign countries; comments by 5–26–77 2631

PART VIII:

MANDATORY PETROLEUM PRICE REGULATIONS

FEA announces national hearings on 3–3–77 and regional hearings on 2–25 and 2–28–77 on proposal concerning price incentives and findings concerning composite price adjustments for domestic crude oil; comments by 3–1–77 2645

contents

THE PRESIDENT

Executive Orders

National Aeronautics and Space Administration employees, Space Shuttle Astronaut Program; career or career-conditional appointment 2499

EXECUTIVE AGENCIES

AGRICULTURAL MARKETING SERVICE

Proposed Rules

Cotton Research and Promotion Board membership, determination; extension of time 2503
Dates (domestic) produced in Calif 2503

AGRICULTURE DEPARTMENT

See Agricultural Marketing Service; Farmers Home Administration.

ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH ADMINISTRATION

Notices

Meetings:
  Mental Health National Advisory Council; correction 2541

ARMY DEPARTMENT

See Engineers Corps.

CIVIL AERONAUTICS BOARD

Notices

Specific commodity rates; correction 2516

CIVIL RIGHTS COMMISSION

Notices

Meetings:
  Virginia Advisory Committee 2516

CIVIL SERVICE COMMISSION

Notices

Noncareer executive assignments:
  Transportation Department 2517

COMMERCE DEPARTMENT

See also Domestic and International Business Administration; Economic Development Administration; Maritime Administration; National Oceanic and Atmospheric Administration; Patent and Trademark Office.

Notices

Privacy Act; systems of records 2521

COMMODITY FUTURES TRADING COMMISSION

Rules

Commodity Exchange Act regulations:
  Exchanges designated as contract markets; required notification of pending legal proceedings 2627

CONSUMER AFFAIRS AND REGULATORY FUNCTIONS, OFFICE OF ASSISTANT SECRETARY

Rules

Mobile home procedural and enforcement regulations:
  Construction and safety standards 2575

CUSTOMS SERVICE

Rules

Antidumping:
  Tuners (type used in consumer electronic products) from Japan 2501

DEFENSE DEPARTMENT

See Engineers Corps.

Notices

Meetings:
  Science Board Task Force on Net Technical Assessment; postponed 2524

DOMESTIC AND INTERNATIONAL BUSINESS ADMINISTRATION

Notices

Scientific articles; duty free entry:
  Duke University 2519
  Harvard University 2517
  Louisiana State University Medical Center 2518
  University of Notre Dame du Lac 2518

ECONOMIC DEVELOPMENT ADMINISTRATION

Notices

Import determination petitions:
  Boonton Handbag Co 2519

EDUCATION OFFICE

Notices

Applications and proposals, closing dates:
  Basic educational opportunity grant program 2542
  Teacher Corps projects; correction 2542
Meetings:
  Indian Education National Advisory Council 2541
Postsecondary education programs; Education Amendments of 1976, implementation of provisions; correction 2542

ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

Notices

Meetings:
  Procurement Policy Advisory Committee 2524

ENGINEERS CORPS

Proposed Rules

Administrative procedures:
  Mississippi River Commission; Sunshine Act implementation, public observation of meetings 2571

ENVIRONMENTAL PROTECTION AGENCY

Rules

Water pollution control:
  Effluent standards for toxic pollutants; benzidine, aldrin/dieldrin, DDT, etc. (2 documents) 2588, 2617

Notices

Noise pollution control:
  Identification of products as major sources of noise; power lawn mowers; report 2525
Pesticides; specific exemptions and experimental use permits:
  Massachusetts Department of Public Health 2526
  Texas Department of Health Resources 2527

FARMERS HOME ADMINISTRATION

Notices

Disaster and emergency areas:
  Nebraska 2516
  North Carolina 2516
  Oklahoma 2516

FEDERAL COMMUNICATIONS COMMISSION

Rules

FM broadcast stations; table of assignments:
  California 2502

Notices

Domestic public radio services; applications accepted for filing 2527
FM translator applications ready and available for processing 2529
Hearings, etc.:
  American Broadcasting Companies, Inc. and Community Antenna Television Association 2530
  Marshfield Broadcasting Co., Inc 2529

FEDERAL ELECTION COMMISSION

Notices

Advisory opinion requests 2623
Committees, establishment, renewals, etc.:
  Clearinghouse Advisory Committee 2623
Contributions; policy statement 2623

FEDERAL ENERGY ADMINISTRATION

Proposed Rules

Petroleum price regulations, mandatory:
  Crude oil, domestic; additional incentives; tertiary enhanced recovery techniques 2645

FEDERAL HOME LOAN BANK BOARD

Proposed Rules

Sunshine Act implementation; public information regarding decision making processes 2503

CONTENTS

FEDERAL MARITIME COMMISSION

Notices

Agreements filed, etc.:
- Board of Governors of Galveston Wharves et al 2540
- Ceres, Inc. and Tri-State Terminals, Inc 2540

FEDERAL POWER COMMISSION

Notices

Hearings, etc.:
- Paleo, Inc., et al 2541

FEDERAL RAILROAD ADMINISTRATION

Proposed Rules

Assistance to States; in-kind benefits, standards and procedures; extension of time 2507

FEDERAL RESERVE SYSTEM

Rules

Authority delegations:
- Board employees and Federal Reserve banks; specific functions; correction 2501

FISH AND WILDLIFE SERVICE

Proposed Rules

Endangered and threatened species; fish, wildlife, and plants:
- Fauna; snails, fish, and crustaceans 2507

HEALTH, EDUCATION, AND WELFARE DEPARTMENT

See also Alcohol, Drug Abuse, and Mental Health Administration; Education Office.

Notices

Meetings:
- National Professional Standards Review Council 2543

Organization, functions, and authority delegations:
- National Institute of Education 2543

HOUSING AND URBAN DEVELOPMENT DEPARTMENT

See Consumer Affairs and Regulatory Functions, Office of Assistant Secretary.

INTERIOR DEPARTMENT

See Fish and Wildlife Service; Land Management Bureau.

INTERNAL REVENUE SERVICE

Rules

Allocation and apportionment of deductions to gross income; correction 2501

INTERSTATE COMMERCE COMMISSION

Notices

Abandonment of railroad services, etc.:
- Illinois Central Gulf Railroad Co. (2 documents) 2545
- Southern Pacific Transportation Co 2552
- Union Pacific Railroad Co 2552

Car service rules, mandatory; exemptions 2545

Hearing assignments 2545

Motor carriers:
- Irregular route property carriers; gateway elimination 2546

Rerouting traffic:
- San Diego and Arizona Eastern Railway Co 2552

LAND MANAGEMENT BUREAU

Notices

Withdrawal and reservation of lands, proposed, etc.:
- California; partial termination; correction 2543
- Oregon; termination 2543

LEGAL SERVICES CORPORATION

Notices

Grants and contracts; applications 2543

MARITIME ADMINISTRATION

Notices

Applications, etc.:
- Albatross Tanker Corp 2519

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Proposed Rules

Coastal zone management program; planning requirements; extension of time 2507

Notices

Marine mammal permit applications, etc.:
- Fisherman's Marketing Association of Washington 2520
- Lake Merritt Parks and Recreation Office 2520
- Payne, Dr. Roger S 2520

OHIO RIVER BASIN COMMISSION

Notices

Muskingum River Basin; availability of plan 2544

PATENT AND TRADEMARK OFFICE

Proposed Rules

Patent cases:
- Patent Cooperation Treaty; implementation 2631

POSTAL RATE COMMISSION

Notices

Visits to postal facilities 2544

PUBLIC HEALTH SERVICE

Notices

Meetings:
- Immunization Practices Advisory Committee 2543

SCIENCE AND TECHNOLOGY POLICY OFFICE

Notices

Meetings:
- Intergovernmental Science, Engineering and Technology Advisory Panel 2544

SCIENCE AND TECHNOLOGY, PRESIDENT'S COMMITTEE

Notices

Meeting 2544

SMALL BUSINESS ADMINISTRATION

Proposed Rules

Nondiscrimination in federally assisted programs; types of Federal financial assistance covered 2506

Small business size standards:
- Refuse collection with or without disposal, and shipbuilding and repairing; extension of time 2505

Notices

Applications, etc.:
- MDC Capital Corp 2544

STATE DEPARTMENT

Rules

Visas:
- Immigrants and nonimmigrants; consular officer; definitions 2501

TRANSPORTATION DEPARTMENT

See Federal Railroad Administration.

TREASURY DEPARTMENT

See Customs Service.

"THE FEDERAL REGISTER—WHAT IT IS AND HOW TO USE IT"

Briefings at the Office of the Federal Register

(For Details, See 41 FR 46527, Oct. 21, 1976)

RESERVATIONS: DEAN L. SMITH, 523-5282

---

list of cfr parts affected in this issue

The following numerical guide is a list of the parts of each title of the Code of Federal Regulations affected by documents published in today's issue. A cumulative list of parts affected, covering the current month to date, follows beginning with the second issue of the month.

A Cumulative List of CFR Sections Affected is published separately at the end of each month. The guide lists the parts and sections affected by documents published since the revision date of each title.

3 CFR

EXECUTIVE ORDERS:
11955 2499

7 CFR

PROPOSED RULES:
  987 2503
  1205 2503

10 CFR

PROPOSED RULES:
  212 2646

12 CFR

265 2501
PROPOSED RULES:
  505b 2503

13 CFR

PROPOSED RULES:
  112 2506
  121 2505

15 CFR

PROPOSED RULES:
  920 2507

17 CFR

1 2628

19 CFR

153 2501

22 CFR

41 2501
42 2501

24 CFR

3282 2576

26 CFR

1 2501

33 CFR

PROPOSED RULES:
  209 2572

37 CFR

PROPOSED RULES:
  1 2632
  3 2632
  5 2632

40 CFR

129 (2 documents) 2588, 2617

47 CFR

73 2502

49 CFR

PROPOSED RULES:
  267 2507

50 CFR

PROPOSED RULES:
  17 2507

CUMULATIVE LIST OF PARTS AFFECTED DURING JANUARY

The following numerical guide is a list of parts of each title of the Code of Federal Regulations affected by documents published to date during January.

1 CFR

PROPOSED RULES:

442	1267

3 CFR

EXECUTIVE ORDERS:

11490 (Amended by EO 11953)	2491
11651 (Amended by EO 11951)	1453
11724 (Superseded by EO 11954)	2297
11821 (Amended by EO 11949)	1017
11921 (See EO 11953)	2491
11949	1017
11950	1451
11951	1453
11952	2293
11953	2491
11954	2297
11955	2499

5 CFR

213	1455
1410	2299

7 CFR

1	743
26	1019
226	1475
354	1475
722	1476
726	2300
729	749
730	2301
905	1022
907	1220
910	1476
928	1, 2
959	2308
1430	3
1822	1023, 2051
1843	1231
1845	2308

PROPOSED RULES:

270	1479
271	1479
272	780, 2328
275	1479
730	780
987	2503
1063	1356
1070	1356
1078	1356
1079	1356
1205	2503
1421	2328
1701	1479

9 CFR

97	1455
113	750, 1456
319	751

PROPOSED RULES:

92	1483

10 CFR

100	2051
140	46
Ch. II	1036
212	1036, 1456, 2308

PROPOSED RULES:

212	2646

12 CFR

16	2200
202	1242
207	968
211	752
213	752
220	752
221	968
224	968
225	752, 1263
226	753, 1264
265	2501
704	1458

PROPOSED RULES:

226	780, 1268
505b	2503
523	2338
545	2328
564	2328
604	55, 2078

13 CFR

309	753

PROPOSED RULES:

112	2506
121	2505

14 CFR

25	2052
37	19
39	1217, 1218, 2053–2055
71	300, 2055, 2056
73	300
75	300
97	1219, 2056
221a	1220
241	1219
378a	2309
385	1220

PROPOSED RULES:

39	1268–1270
71	1270–1271, 2078, 2079
288	1271

15 CFR

369	2057
371	1222
377	1222
931	1164

PROPOSED RULES:

920	2507

16 CFR

13	3–5
1201	1428

PROPOSED RULES:

4	2079
438	1483
450	1038
1301	1484

17 CFR

1	2628
200	753
211	2058
240	753, 754, 2060
241	759

PROPOSED RULES:

240	781, 782
249	782

18 CFR

11	1226
141	6

PROPOSED RULES:

1	2079
2	2329
3	2079
154	1272
157	56

19 CFR

6	2309
10	2309, 2310
153	2501

PROPOSED RULES:

1	2329
113	2330
201	805

20 CFR

404	2062
405	1028
416	2062
614	1459

PROPOSED RULES:

416	2079

21 CFR

2	1459
8	1459
102	761
121	1460, 1461
314	1624, 1638
320	1624, 1638
520	1462
540	1462
558	761, 1463, 2312

PROPOSED RULES:

1	2330
3e	1483
11	806
18	2330
121	1483
128d	807
369	2330
500	2330
701	2330
740	2330
801	2330

22 CFR

41	2501
42	2501

23 CFR

625	6
712	7

24 CFR

203	762
205	763
207	764
213	764
221	765
231	766
232	763
241	763
242	763
244	763
280	960
1914	2193
1917	2063–2068
3282	2576

24 CFR—Continued

PROPOSED RULES:
201 ... 1487
501 ... 1488
1917 ... 2082

26 CFR

1 ... 767, 1195, 1463, 2501
7 ... 1469, 1471
154 ... 2312
404 ... 1029, 2313

PROPOSED RULES:
1 ... 57
54 ... 1488
301 ... 1038, 1489

28 CFR

PROPOSED RULES:
32 ... 1390

29 CFR

15 ... 769
94 ... 1656, 2426
95 ... 2427
96 ... 2428
97 ... 1656
98 ... 2428
99 ... 773, 2430
511 ... 2313
1952 ... 2313

PROPOSED RULES:
1910 ... 808, 1742, 1806
2550 ... 1488, 1618

30 CFR

100 ... 1214

PROPOSED RULES:
211 ... 1489, 2082

31 CFR

1 ... 2311
51 ... 2196, 2422
101 ... 1471
210 ... 9
515 ... 1472

32 CFR

256 ... 773

PROPOSED RULES:
242a ... 1492
903 ... 2085

33 CFR

40 ... 10
159 ... 11

PROPOSED RULES:
209 ... 2572

34 CFR

Ch. I ... 12
232 ... 1478

36 CFR

606 ... 1473

PROPOSED RULES:
16 ... 812
17 ... 812

37 CFR

PROPOSED RULES:
1 ... 2632
3 ... 2632
5 ... 2632

38 CFR

0 ... 2314
3 ... 2069
17 ... 2316

40 CFR

6 ... 2450
60 ... 1214
61 ... 1215
86 ... 1122, 1150
129 ... 2588, 2617
220 ... 2468
221 ... 2470
222 ... 2471
223 ... 2474
224 ... 2474
225 ... 2475
226 ... 2475
227 ... 2476
228 ... 2482
229 ... 2489
430 ... 1398
455 ... 2316

PROPOSED RULES:
22 ... 1492
52 ... 1273, 1494
85 ... 1044
180 ... 815
201 ... 2330
202 ... 2330
260 ... 2331
1516 ... 1044

41 CFR

Ch. 14 ... 1215
14–1 ... 1215
14–10 ... 1215
101–1 ... 12
101–25 ... 1030
101–26 ... 1032
101–28 ... 2317
101–38 ... 1477

PROPOSED RULES:
3–1 ... 1273
101–17 ... 816

43 CFR

4 ... 1216
2650 ... 779
3100 ... 1032
4110 ... 778
4120 ... 778

PROPOSED RULES:
3800 ... 1045

45 CFR

193 ... 1190
250 ... 779

PROPOSED RULES:
158 ... 2086
Ch. II ... 2445
205 ... 2440
250 ... 2331
1480 ... 1045

46 CFR

536 ... 1473

PROPOSED RULES:
12 ... 1278
502 ... 817

47 CFR

13 ... 1231
15 ... 1231
21 ... 1232
73 ... 1233, 2502
74 ... 2069
81 ... 1474
83 ... 1231, 1474

PROPOSED RULES:
64 ... 1278
73 ... 1278, 1279, 2086
74 ... 2087
83 ... 2088
97 ... 2089

49 CFR

25 ... 12
173 ... 2071
174 ... 2071
218 ... 2318
221 ... 2321
225 ... 1221
231 ... 1222
1047 ... 19
1241 ... 1474
1249 ... 1474
1250 ... 1474
1251 ... 1474

PROPOSED RULES:
267 ... 2507
523 ... 2092
1251 ... 2092

50 CFR

17 ... 2071
26 ... 1033
33 ... 1034
216 ... 1034
260 ... 2326
261 ... 2326
262 ... 2326
263 ... 2326
264 ... 2326
265 ... 2326
266 ... 2326
267 ... 2326
268 ... 2326
269 ... 2326
270 ... 2326
271 ... 2326
272 ... 2326
273 ... 2326
274 ... 2326
275 ... 2326
276 ... 2326
277 ... 2326
278 ... 2326
279 ... 2326

PROPOSED RULES:
17 ... 2101, 2102, 2507
216 ... 1049

FEDERAL REGISTER PAGES AND DATES—JANUARY

Pages	*Date*
1–741	Jan. 3
743–1015	4
1017–1194	5
1195–1450	6
1451–2049	7
2051–2291	10
2293–2497	11
2499–2664	12

reminders

(The items in this list were editorially compiled as an aid to FEDERAL REGISTER users. Inclusion or exclusion from this list has no legal significance. Since this list is intended as a reminder, it does not include effective dates that occur within 14 days of publication.)

Rules Going Into Effect Today

ITC—Nonadjudicative hearings; rules of general application.... 54168; 12–13–76

Next Week's Deadlines for Comments On Proposed Rules

AGRICULTURE DEPARTMENT

Agricultural Stabilization and Conservation Service—

Burley Tobacco; proposed determinations of marketing quotas; comments by 1–21–77............. 55551; 12–21–76

Tobacco in Maryland; proposed determinations or marketing quotas; comments by 1–21–77. 55549; 12–21–76

Virginia Sun-cured tobacco (type 37); proposed determinations of marketing quotas; comments by 1–21–77................ 55550; 12–21–76

Farmers Home Administration—

Loan disbursement; multiple advance feature; comments by 1–19–77. 55359; 12–20–76

Food and Nutrition Service—

Determination of eligibility for free and reduced price meals and milk in Puerto Rico and the Virgin Islands; comments by 1–16–77. 54493; 12–14–76

Forest Service—

Administrative review procedures; revisions; comments by 1–17–77. 54200; 12–13–76

Rural Electrification Administration—

Rural telephone program; new specification for electronic trunk circuits; comments by 1–17–77...... 55198; 12–17–76

CIVIL AERONAUTICS BOARD—

Applications for operating authority; standards for determining priorities of hearing; comments by 1–17–77. 52698; 12–1–76

Exemption of Logair and Quicktrans for Military Transportation from minimum fuel surcharge rates; comments by 1–21–77.................. 1271; 1–6–77

"No-smoking" areas aboard aircraft operated by certified carriers; supplemental proposals; comments by 1–21–77.................. 51423; 11–22–76

CIVIL SERVICE COMMISSION

Public observation of commission meetings; comments by 1–21–77. 55537; 12–21–76

COMMERCE DEPARTMENT

Patent and Trademark Office—

Interference practice; comments by 1–21–77............ 52486; 11–30–76

COMMODITY FUTURES TRADING COMMISSION

Trading standards and records of cash commodity and futures transactions; comments by 1–21–77........ 55887; 12–23–76

COMMUNITY SERVICES ADMINISTRATION

Funding of grantee programs; preparation of form and statement; comments by 1–20–77.............. 56197; 12–27–76

DEFENSE DEPARTMENT

Office of the Secretary—

Board of Regents of Uniformed Services; University of the Health Sciences; public meeting procedures; comments by 1–21–77.... 55724;

ENVIRONMENTAL PROTECTION AGENCY—

Emission control production warranty for light duty vehicles and trucks; comments by 1–17–77............

New Jersey; implementation plans; comments by 1–17–77................ 54954; 12–16–76

New York; implementation plans; comments by 1–17–77.............. 54955; 12–16–76

North Carolina; implementation plans; revisions; comments by 1–21–77. 55561; 12–21–76

Pharmaceutical Manufacturing Point Source category; interim final rule; comments by 1–17–77.......... 50676; 11–17–76

FEDERAL COMMUNICATIONS COMMISSION

Cable TV systems; frequency channeling and monitoring for signal leakage; comments by 1–17–77.......... 54512; 12–14–76

Public land mobile radio systems; interconnection policies; reply comment period extended to 1–18–77. 35863; 8–25–76

FEDERAL MARITIME COMMISSION

Public observation of Federal Maritime Commission meetings and public access to information pertaining to Commission meetings; comments by 1–17–77.............. 55207; 12–17–76

FEDERAL RESERVE SYSTEM

Brokers and dealers; credit extended to exchange specialists; comments by 1–17–77.............. 55552; 12–21–76

Regulation Z, sample lease disclosure statements; board interpretation; comments by 1–21–77.......... 56657; 12–29–76

FEDERAL TRADE COMMISSION

Advertising for over-the-counter drugs; comments by 1–21–77............ 1038; 1–5–77

Mergers and acquisitions; comments by 1–19–77.............. 55488; 12–20–76

HEALTH, EDUCATION, AND WELFARE DEPARTMENT

Office of the Secretary—

Availability of information to the public; comments by 1–17–77. 50846; 11–18–76

Delivery of human services by State and local Governments; waiver of requirements impeding improvement; comments by 1–21–77. 53412; 12–6–76

HOUSING AND URBAN DEVELOPMENT DEPARTMENT—

Federal Housing Commissioner—Office of Assistant Secretary for Housing—

Definition of "families" and other related terms and occupancy by single persons; comments by 1–19–77.............. 55080; 12–16–76

Mortgage and loan insurance programs; comments by 1–19–77. 55484; 12–20–76

INTERIOR DEPARTMENT

Indian Affairs Bureau—

San Carlos Indian Irrigation Project, Arizona; revision of regulations and rates; comments by 1–17–77. 55212; 12–17–76

INTERNATIONAL TRADE COMMISSION

Modification of duties; investigations to determine the probable economic effects on the economy of the United States; comments by 1–17–77. 55203; 12–17–76

LABOR DEPARTMENT

Employee Benefits Security Office—

Employee benefit plans; fiduciary responsibility; comments by 1–17–77............... 55206; 12–17–76

NATIONAL SCIENCE FOUNDATION

National Science Board; open meetings; comments by 1–21–77.......... 54956; 12–16–76

NATIONAL TRANSPORTATION POLICY STUDY COMMISSION

Privacy Act of 1974; comments by 1–17–77.................. 54947; 12–16–76

TRANSPORTATION DEPARTMENT

Federal Aviation Administration—

Airworthiness directives; Beech 19, 23 and 24 Series airplanes (2 documents); comments by 1–17–77........ 50838–50839; 11–18–76

Domestic and flag air carriers; requirements for obtaining sufficient weather information; comments by 1–17–77.......... 50275; 11–15–76

Transition area; alteration; Palmdale, California; comments by 1–17–77. 54950; 12–16–76

Federal Railroad Administration—

Construction of railroad employee sleeping quarters; hours of service; comments by 1–17–77.... 53072; 12–3–76

REMINDERS—Continued

Materials Transportation Bureau—
Blasting agents; miscellaneous changes; comments by 1–21–77. 52083; 11–26–76
National Highway Traffic Safety Administration—
Fuel economy; vehicle classification; comments by 1–19–77.... 55368; 12–20–76

TREASURY DEPARTMENT
Comptroller of the Currency—
Limitation of charitable contributions by national banks; comments by 1–20–77.......... 54600; 12–14–76

VETERANS ADMINISTRATION
Increase in search charge for release of information from files other than claimant files; comments by 1–20–77.................. 55558; 12–21–76

Next Week's Meetings

AGRICULTURE DEPARTMENT
Food and Nutrition Service—
Nutrition Evaluation Advisory Committee, Alexandria, Virginia (open), 1–17 and 1–18–77............ 55216; 12–17–76
Forest Service—
Deschutes National Forest Advisory Committee, Bend, Oregon (open), 1–20–77.......... 55562; 12–21–76
Santa Fe National Forest Grazing Advisory Board, Santa Fe, NM (open), 1–20–77............ 53835; 12–9–76

ARTS AND HUMANITIES, NATIONAL FOUNDATION
Fellowships Panel Advisory Committee, Washington, D.C. (closed), 1–17, 20 and 21–77............ 55000; 12–16–76

CIVIL RIGHTS COMMISSION
Colorado Advisory Committee, Denver, Colorado (open), 1–22–77.... 1051; 1–5–77
District of Columbia Advisory Committee, Washington, D.C. (open), 1–18–77.................. 54014; 12–10–76
Illinois Advisory Committee, Chicago, Ill. (open), 1–17–77.............. 56356; 12–28–76
Massachusetts Advisory Committee, Boston, Massachusetts (open), 1–20–77........................ 1051; 1–5–77
New Jersey Advisory Committee, New Brunswick, N.J. (open), 1–12–77. 51434; 11–22–76
Ohio Advisory Committee, Cleveland, Ohio (open), 1–22–77............ 1051; 1–5–77
Rhode Island Advisory Committee, Providence, Rhode Island (open), 2–22–77.............. 55567; 12–21–76
South Carolina Advisory Committee, Marion, S.C. (open), 1–21–77. 54015; 12–10–76
Tennessee Advisory Committee, Memphis, Tenn. (open), 1–21–77.. 56357; 12–28–76

CIVIL SERVICE COMMISSION
Private Voluntary Agency Eligibility committee, Washington, D.C. (open), 1–17–77.................. 56685; 12–29–76
Private Voluntary Agency Eligibility committee, Washington, D.C. (open), 1–17–77.......................... 830; 1–4–77

CONSUMER PRODUCT SAFETY COMMISSION
Poison Prevention Packaging Technical Advisory Committee, Bethesda, Md. (open), 1–18 and 1–19–77.... 56883; 12–30–76

DEFENSE DEPARTMENT
Air Force Department—
Scientific Advisory Board, Ad Hoc Committee on Advanced ICBM Technology, Los Angeles, Calif. (closed), 1–18 and 1–19–77. 55375; 12–20–76
Scientific Advisory Board, Munitions-Armament Panel, Los Angeles, Calif. (closed), 1–20 and 1–21–77. 55375; 12–20–76
Scientific Advisory Board, Wright-Patterson Air Force Base, Ohio (closed), 1–20 and 1–21–77. 55929; 12–23–76
Office of the Secretary—
Defense Science Board Task Force On Net Technical Assessment, Washington, D.C. (closed), 1–18 and 1–19–77.......... 55570; 12–21–76
Wage Committee, Washington, D.C. (closed), 1–18–77............ 49666; 11–10–76

ENVIRONMENTAL PROTECTION AGENCY
Chesapeake Bay Program Policy Advisory Committee, Washington, D.C. (open), 1–19–77.. 56888; 12–30–76

HEALTH, EDUCATION, AND WELFARE DEPARTMENT
Alcohol, Drug Abuse, and Mental Health Administration—
National Advisory Council on Drug Abuse, Rockville, Maryland (open), 1–18–77.......... 54993; 12–16–76
Education Office—
National Advisory Committee on the Handicapped (open), 1–17 thru 1–19–77.
National Institutes of Health—
Committee advisory to the National Cancer Institute, review of research contract proposals, 1–20 and 1–21, 1–24 and 1–25, 1–27 and 1–28 and 1–29–77. 55592–55593; 12–21–76
Conference on 1976 Influenza Vaccine Test Program, Bethesda, Md. (open), 1–20 and 1–21–77. 54817; 12–15–76
Division of Research Resources and General Clinical Research Centers Committee, Bethesda, Md. (open), 1–17–77.......... 56399; 12–28–76
National Advisory Neurological and Communicative Disorders and Stroke Council, Bethesda, Md. (partially open), 1–21 and 1–22–77. 53710; 12–8–76
Recombinant DNA Molecule Program Advisory Committee, Miami, Florida (partially open), 1–16–77. 53711; 12–8–76
Office of the Secretary—
Review Panel on New Drugs, Washington, D.C. (open), 2–21–77. 53137; 12–3–76

LABOR DEPARTMENT
Labor Statistics Bureau—
Business Research Advisory Council's Committees on Productivity and Technological Developments and Foreign Labor and Trade, Washington, D.C. (open), 1–17–77. 56407; 12–28–76

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Research and Technology Advisory Council Committee on Aeronautical Propulsion, Edwards, Calif. (open), 1–19 thru 1–21–77............ 56420; 12–28–76

NATIONAL SCIENCE FOUNDATION
Minority Institution Graduate Traineeship Program Subpanel of the Advisory Panel on Science Education Projects, Washington, D.C. (closed), 1–21 and 1–22–77.............. 56873; 12–30–76

NUCLEAR REGULATORY COMMISSION
Reactor Safeguards Advisory Committee, Charlotte, N.C. (partially open), 1–19–77.............. 56895; 12–30–76
Success Factor Evaluation Panel, Washington, D.C. (open), 2–16 and 2–17–77.................. 52114; 11–26–76

SCIENCE AND TECHNOLOGY POLICY OFFICE
Intergovernmental Science, Engineering and Technology Advisory Panel, Washington, D.C. (open), 1–21–77. 1085; 1–5–77

SECURITIES AND EXCHANGE COMMISSION
National Market Advisory Board, Washington, D.C. (open), 1–17 and 1–18–77.................. 56422; 12–28–76

SMALL BUSINESS ADMINISTRATION
Concord District Advisory Council, Concord, N.H. (open), 1–19–77. 56898; 12–30–76

STATE DEPARTMENT
International Telegraph and Telephone Consultative Committee, Study Group 1 of the U.S. International Committee, Washington, D.C. (open), 1–18 and 1–19–77........ 56898; 12–20–76
Safety of Life at Sea, Subcommittee of the Shipping Coordinating Committee, Washington, D.C. (open), 1–19–77.................. 55958; 12–23–76

TRANSPORTATION DEPARTMENT

Federal Aviation Administration—

Radio Technical Commission For Aeronautics Special Committee 122—Planning for 50 KHz VOR/ILS Channeling, Washington, D.C. (open), 1–18 and 1–19–77. 53881; 12–9–76

Federal Highway Administration—

Uniform Traffic Control Devices, National Advisory Committee, Silver Spring, Md. (open), 1–20 thru 1–22–77 88; 1–3–77

Next Week's Public Hearings

FEDERAL ENERGY ADMINISTRATION

Alternative Entitlement Program; adjustments for imported residual fuel oil, Washington, D.C. (open), 1–21–77 56824; 12–30–76

POSTAL SERVICE COMMISSION

Public service costs of postal service, various cities, 1–18 thru 1–21–77. 55738; 12–22–76

TRANSPORTATION DEPARTMENT

Federal Aviation Administration—

Airport noise regulatory process, Washington, D.C., 1–17–77. 51533; 11–22–76

List of Public Laws

NOTE: No public bills which have become law were received by the Office of the Federal Register for inclusion in today's LIST OF PUBLIC LAWS.

presidential documents

Title 3—The President

Executive Order 11955 • January 10, 1977

Permitting Certain Qualified Employees of the National Aeronautics and Space Administration To Be Given Career Or Career-Conditional Appointment

By virtue of the authority vested in me by section 3301 of title 5 of the United States Code, and as President of the United States of America, it is hereby ordered as follows:

SECTION 1. The appointment of a Command Pilot, Pilot or Mission Specialist candidate to a position in the Space Shuttle Astronaut Program of the National Aeronautics and Space Administration, which is listed under Schedule B of the Schedule of Excepted Positions, may be converted to career or career-conditional appointment if:

(a) the candidate has successfully completed two years of service as a candidate in an appropriate training program;

(b) the Administrator of the National Aeronautics and Space Administration, or the Administrator's designee, recommends the conversion of the candidate's appointment within ninety days of completion of the requirements of section 1(a);

(c) the candidate meets noncompetitive examination standards prescribed by the United States Civil Service Commission; and

(d) the candidate meets all other requirements prescribed by the United States Civil Service Commission pursuant to section 3 of this order.

SEC. 2. Whenever the Administrator of the National Aeronautics and Space Administration, or the Administrator's designee, decides not to recommend conversion of an appointment under this order or whenever the Administrator, or the Administrator's designee, recommends conversion and the candidate fails to qualify, the candidate shall be separated not later than the date of expiration of the current Schedule B appointment, unless the appointment can be converted through appropriate competitive examination or the candidate can be assigned to a suitable position under another excepted authority prior to the expiration date.

SEC. 3. The United States Civil Service Commission shall prescribe such regulations as may be necessary to carry out the purpose of this order.

Gerald R. Ford

THE WHITE HOUSE,
January 10, 1977.

[FR Doc.77-1220 Filed 1-11-77;10:53 am]

rules and regulations

This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.

The Code of Federal Regulations is sold by the Superintendent of Documents. Prices of new books are listed in the first FEDERAL REGISTER issue of each month.

Title 12—Banks and Banking

CHAPTER II—FEDERAL RESERVE SYSTEM

SUBCHAPTER A—BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

[Docket R-0064]

PART 265—RULES REGARDING DELEGATION OF AUTHORITY

Miscellaneous Changes

Correction

In FR Doc. 76-36186, appearing at page 53775, in the issue for Thursday, December 9, 1976, change the sixth word in the third line of § 265.3 from "required" to "requested".

Title 19—Customs Duties

CHAPTER I—UNITED STATES CUSTOMS SERVICE

[T.D. 77-26]

PART 153—ANTIDUMPING

Tuners Used in Electronic Products

On July 16, 1976, there was published in the FEDERAL REGISTER (41 FR 29435) a "Notice of Tentative Determination to modify or Revoke Dumping Finding" with respect to tuners (of the type used in consumer electronic products) from Japan sold for export to the United States by Sony Corporation of Japan.

Reasons for the tentative determination were published in the above-mentioned notice, and interested persons were afforded an opportunity to make written submissions or request the opportunity to present oral views in connection therewith.

No written submissions or requests to present oral views having been received, I hereby determine that for the reasons stated in the above-mentioned notice, tuners (of the type used in consumer electronic products) from Japan are no longer being, nor likely to be, sold in the United States at less than fair value by Sony Corporation of Japan, and the above mentioned finding of dumping is hereby modified to exclude tuners (of the type used in consumer electronic products) from Japan sold by Sony Corporation of Japan.

Accordingly, § 153.46 of the Customs Regulations (19 CFR 153.46) is hereby amended to show the exclusion from the finding of dumping of tuners (of the type used in consumer electronic products) from Japan sold by Sony Corporation of Japan.

Finding of dumping

Merchandise	Country	T.D.	Modified by—
Tuners (of the type used in consumer electronic products), except: (I) Those produced and sold by Matsushita Electric Industrial Co., Ltd., and Matsushita Electric Trading Co., Ltd., (II) Those sold by Victor Company of Japan Ltd., (III) Those sold by Tokyo Shibaura Electric Co., Ltd., (IV) Those produced and sold by Sanyo Electric Co., Ltd., and Sanyo Electric Trading Co., Ltd., and (V) Those sold by Sony Corp. of Japan.	Japan........	70-257	75-80 76-143 76-215 77-26

This determination is published pursuant to § 153.44(d), Customs Regulations (19 CFR 153.44(d)).

(Secs. 201, 407, 42 Stat. 11, as amended, 18; 19 U.S.C. 160, 173).

JERRY THOMAS,
Under Secretary of the Treasury.

[FR Doc.77-1068 Filed 1-11-77;8:45 am]

Title 22—Foreign Relations

CHAPTER I—DEPARTMENT OF STATE

[Dept. Reg. 108.731]

PART 41—VISAS: DOCUMENTATION OF NONIMMIGRANTS UNDER THE IMMIGRATION AND NATIONALITY ACT, AS AMENDED

PART 42—VISAS: DOCUMENTATION OF IMMIGRANTS UNDER THE IMMIGRATION AND NATIONALITY ACT, AS AMENDED

Definitions of Consular Officer

Parts 41 and 42, Chapter I, Title 22 of the Code of Federal Regulations are amended to provide that assignment of certain officers of the Department of State to diplomatic or consular offices abroad shall, in specified circumstances, constitute designation of such officers within the meaning of section 101(a)(9) of the Immigration and Nationality Act.

1. Section 41.1 is amended to read:

§ 41.1 Definitions.

* * * * *

"Consular officer," as defined in section 101(a)(9) of the Act, shall include commissioned consular officers, the District Administrators of the Trust Territory of the Pacific Islands, the Director of the Visa Office of the Department and such other officers of the Department as he shall designate for the purpose of issuing nonimmigrant visas, but shall not include a consular agent, an attache, or an assistant attache. The assignment by the Department of any Foreign Service Officer or Foreign Service Reserve Officer to a diplomatic or consular office of the United States abroad in a position administratively designated as requiring, solely, principally, or partially, the performance of consular functions, and the initiation of a request for a consular commission, shall constitute designation of such officer as a "consular officer" within the meaning of section 101(a)(9) of the Act.

* * * * *

2. Section 42.1 will be amended as follows:

§ 42.1 Definitions.

* * * * *

"Consular officer," as defined in section 101(a)(9) of the Act, shall include the District Administrators of the Trust Territory of the Pacific Islands, hereby designated as consular officers for the purpose of issuing immigrant visas, but shall not include a consular agent, an attache, or an assistant attache. The assignment by the Department of any Foreign Service Officer or Foreign Service Reserve Officer to a diplomatic or consular office abroad in a position administratively designated as requiring, solely, principally or partially, the performance of consular functions, and the initiation of a request for consular commission, shall constitute designation of such officer as a "consular officer" within the meaning of section 101(a)(9) of the Act.

* * * * *

Effective date. Compliance with the provisions of section 553 of Title 5 of the United States Code (80 Stat. 383) as to notice of proposed rulemaking and delayed effective date is unnecessary in this instance because the amendments to §§ 41.1 and 42.1 are in the nature of rules of agency organization. This amendment becomes effective on January 3, 1977.

Dated: January 6, 1977.

For the Secretary of State.

LEONARD F. WALENTYNOWICZ,
Administrator, Bureau of Security and Consular Affairs, Department of State.

[FR Doc.77-1041 Filed 1-11-77;8:45 am]

Title 26—Internal Revenue

CHAPTER I—INTERNAL REVENUE SERVICE, DEPARTMENT OF THE TREASURY

SUBCHAPTER A—INCOME TAX

[T.D. 7456]

PART 1—INCOME TAX; TAXABLE YEARS BEGINNING AFTER DECEMBER 31, 1953

Allocation and Apportionment of Deductions to Gross Income

Correction

In FR Doc. 77-456 appearing on page 1195 in the issue for Thursday, January 6, 1977, the signatures were omitted. They should read as follows:

Donald C. Alexander,
Commissioner of Internal Revenue.

Approved: January 3, 1977.

Charles M. Walker,
Assistant Secretary
of the Treasury.

Title 47—Telecommunication

CHAPTER I—FEDERAL COMMUNICATIONS COMMISSION

[Docket No. 20888]

PART 73—RADIO BROADCAST SERVICES

FM Broadcast Stations in Ridgecrest and Inyokern, Calif.

Adopted: December 23, 1976.

Released: January 6, 1977.

Report and Order. In the matter of amendment of § 73.202(b), *Table of Assignments,* FM Broadcast Stations. (Ridgecrest and Inyokern, California), Docket No. 20888, RM-2677.

1. The Commission has under consideration its Notice of Proposed Rulemaking adopted August 6, 1976, 41 FR 34789, inviting comments on a proposal to assign Channel 285A to Ridgecrest, California, as its second FM assignment. The proceeding was instituted on the basis of a petition filed by Kitchen Productions (petitioner). Petitioner was the only party commenting in response to the Notice.

2. Ridgecrest is a community of 7,629 persons,[1] located in Kern County (pop. 329,162) approximately 193 kilometers (120 miles) northeast of Los Angeles and 121 kilometers (75 miles) east of Bakersfield. Ridgecrest has one daytime-only station (KZIQ) and a Class IV station (KLOA). It also has one FM assignment, Channel 224A, on which an application is pending (BPH-9569) filed by the licensee of daytime-only AM Station KZIQ.

3. In supporting comments petitioner argues that there is a need for an additional service and that the area would easily be capable of supporting the two AM stations, the proposed FM station, as well as the second FM station that would result from the new assignment. Petitioner notes that the largest employers are the Naval Weapons Center, China Lake, California, with a payroll of $88 million, and Kerr McGee Chemical, with a payroll of $20 million. It adds that the estimated Ridgecrest area payroll is $150 million.

4. Preclusion would occur on the cochannel and all adjacent channels except Channel 287. There are three communities (China Lake, 11,105; Trona, 1,500; and Tehachapi, 4,311) located in the areas which would be precluded as a result of the assignment of Channel 285A to Ridgecrest. However, at least two other Class A or Class B channels are available for assignment to these communities. Petitioner points out that China Lake is contiguous to Ridgecrest, and any radio station serving Ridgecrest would also serve China Lake. Alternatively, since China Lake is an unlisted community within 10 miles of Ridgecrest, an application could be filed to use the channel at China Lake.

5. Upon careful consideration of the proposal herein, the Commission believes it would be in the public interest to assign Channel 285A to Ridgecrest, California. Since the communities located in the precluded areas have at least two other Class A or Class B channels available for assignment to them, and a demand has been shown for a second FM channel in Ridgecrest, the assignment of Channel 285A here would result in an efficient use of radio spectrum and would provide Ridgecrest an opportunity to develop a second local FM broadcast service.

6. Authority for the action taken herein is contained in sections 4(i), 5(d)(1), 303 (g) and (r), and 307(b) of the Communications Act of 1934, as amended, and § 0.281 of the Commission's rules.

7. In view of the foregoing: *It is ordered,* That effective February 11, 1977, § 73.202(b) of the Commission's rules, the FM Table of Assignments, is amended to read as follows:

City	*Channel No.*
Ridgecrest, Calif.	224A, 285A.

8. *It is further ordered,* That this proceeding is terminated.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083 (47 U.S.C. 154, 303, 307))

Federal Communications Commission,
Wallace E. Johnson,
Chief, Broadcast Bureau.

[FR Doc.77-1073 Filed 1-11-77;8:45 am]

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[1] All population figures are taken from the 1970 U.S. Census.

proposed rules

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF AGRICULTURE

Agricultural Marketing Service

[7 CFR Part 987]

DOMESTIC DATES PRODUCED OR PACKED IN RIVERSIDE COUNTY, CALIFORNIA

Proposed Marketing Percentages for the 1976–77 Crop Year

Notice is hereby given of a proposal to establish, for the 1976–77 crop year, free and restricted percentages and withholding factors of 100 percent, 0 percent, and 0 percent, respectively, for marketable Deglet Noor, Zahidi, Halawy, and Khadrawy dates. The crop year began October 1, 1976. The proposed percentages and withholding factors would be established in accordance with the provisions of the marketing agreement, as amended, and Order No. 987, as amended (7 CFR Part 987). The amended marketing agreement and order regulate the handling of domestic dates produced or packed in Riverside County, California, and are effective under the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674).

The free percentages, restricted percentages, and withholding factors are pursuant to §§ 987.44 and 987.45. These percentages and factors are based on the California Date Administrative Committee's estimates for the current crop year of supply and trade demand adjusted for handler carryover and other available information. Trade demand means the aggregate quantity of whole or pitted dates which the trade will acquire from all handlers during the crop year for distribution in the continental United States, Canada, and such other countries as the Committee finds will acquire dates at prices reasonably comparable with prices received in the continental United States.

In determining the percentages for each of the four varieties, the Committee considered the following data, estimates and information for the crop year beginning October 1, 1976:

[In thousands of pounds]

	Deglet Noor	Zahidi	Halawy	Khadrawy
1. Production of marketable dates (1976-77 crop)	20,132	1,851	163	348
2. Plus: Noncertified handler carryover as of Sept. 30, 1976, of marketable dates	6,332	136	5	33
3. Total marketable supply	26,464	1,987	168	381
4. Trade demand for free whole and pitted dates	15,450	1,380	138	250
5. Plus: Desirable handler carryover as of Sept. 30, 1977, to assure date supplies for early demand	6,000	350	49	50
6. Less: Certified handler carryover as of Sept. 30, 1976, of free dates	2,000	20	0	0
7. Adjusted trade demand	19,450	1,710	187	300

It is estimated that the amounts in excess of adjusted trade demands for these four varieties will be utilized in products and/or export markets. Hence no volume regulation is proposed.

Consideration will be given to any written data, views, or arguments in connection with the aforesaid proposal which are received by the Hearing Clerk, U.S. Department of Agriculture, Room 112, Administrative Building, Washington, D.C. 20250, not later than January 15, 1977. All written submissions made pursuant to this notice should be in quadruplicate and will be available for public inspection at the office of the Hearing Clerk during regular business hours (7 CFR 1.27(b)).

The proposal is as follows:

§ 987.224 Free and restricted percentages and withholding factors.

The various free percentages, restricted percentages, and withholding factors applicable to marketable dates of each variety shall be, for the crop year beginning October 1, 1976, and ending September 30, 1977, as follows: (a) Deglet Noor variety dates: Free percentage, 100 percent; restricted percentage, 0 percent; and withholding factor, 0 percent; (b) Zahidi variety dates: Free percentage, 100 percent; restricted percentage 0 percent; and withholding factor, 0 percent; (c) Halawy variety dates: Free percentage, 100 percent; restricted percentage, 0 percent; and withholding factor, 0 percent; (d) Khadrawy variety dates: Free percentage, 100 percent; restricted percentage, 0 percent; and withholding factor, 0 percent.

Dated: January 5, 1977.

CHARLES R. BRADER,
Deputy Director,
Fruit and Vegetable Division.

[FR Doc.77-878 Filed 1-11-77;8:45 am]

[7 CFR Part 1205]

DETERMINATION OF COTTON BOARD MEMBERSHIP

Extension of Comment Period

This notice further extends the period for comments to the notice, published December 14, 1976 (41 FR 54494), proposing a revision in the regulations for the determination of Cotton Board membership.

The original notice invited comments on the proposed rule through December 28, 1976. At the request of interested parties the comment period was extended to January 11, 1977 (41 FR 56821). Additional requests have been made to further extend the comment period to February 11, 1977, to provide additional time to prepare and submit comments.

Accordingly, the comment period is hereby extended and interested persons may submit written data, views, or arguments in triplicate to the Hearing Clerk, Room 112, U.S. Department of Agriculture, Washington, D.C. 20250, not later than February 11, 1977.

Dated: January 6, 1977.

CHARLES R. BRADER,
Acting Administrator.

[FR Doc.77-1049 Filed 1-11-77;8:45 am]

FEDERAL HOME LOAN BANK BOARD

[12 CFR Part 505b]

[No. 77-9]

PUBLIC INFORMATION

Government in the Sunshine

JANUARY 5, 1977.

SUMMARY

The following summary of the amendments adopted by this Resolution is included for the reader's convenience and is subject to the full explanation in the preamble and to the specific provisions of the regulations.

I. *Previous Regulation.* None

II. *Proposed Regulation.* Promulgation of rules to implement the Government in the Sunshine Act by providing the public with information regarding the Board's decisionmaking processes

The Government in the Sunshine Act (Pub. L. 94–409; approved September 13, 1976) (hereinafter referred to as the "Act") requires agencies of the Federal Government headed by collegial bodies, which includes the Board, to open their meetings to public observation, except under specified circumstances, by March

12, 1977. Section (g) of the Act directs agencies subject to the Act to promulgate final regulations by that date to implement the open meeting provisions, following consultation with the Administrative Conference of the United States and publication of proposed rules with opportunity for public comment.

Accordingly, the Board hereby proposes to implement the Act by adding a new Part 505b to its general regulations, to read as set forth below.

Interested persons are invited to submit written data, views and arguments to the Office of the Secretary, Federal Home Loan Bank Board, 320 First Street, NW., Washington, D.C. 20552, by February 14, 1977, as to whether this proposal should be adopted, rejected, or modified. Written material submitted will be available for public inspection at the above address.

PART 505b—PUBLIC INFORMATION REGARDING DECISIONMAKING PROCESSES

Sec.

505b.1 Purpose and scope.
505b.2 Definitions.
505b.3 Open meetings.
505b.4 Closed meetings.
505b.5 Accommodation for public attendance at open meetings.

AUTHORITY: Sec. 17, 47 Stat. 736, as amended; 12 U.S.C. 1437, Pub. L. 94-409; approved September 13, 1976. Reorg. Plan No. 3 of 1947, 12 FR 4981, 3 CFR, 1943-48 Comp., p. 1071.

§ 505b.1 Purpose and scope.

This part is issued by the Federal Home Loan Bank Board pursuant to the requirement of the Government in the Sunshine Act (Pub. L. 94-409, 5 U.S.C. 552b) that certain Federal agencies, including the Board, promulgate rules to implement the Act by providing the public with the fullest practicable information regarding the Board's decisionmaking processes while protecting the rights of individuals and the ability of the Board to carry out its responsibilities.

§ 505b.2 Definitions.

(a) For purposes of this part, the term "meeting" means any deliberations of two or more members of the Board, assembled *in collegio*, the purpose or effect of which is to determine or result in joint conduct of official business of the Board.

§ 505b.3 Open meetings.

(a) *General*. Except as provided in § 505b.4 of this part, all meetings of the Board shall be open to the public.

(b) *Procedures for open meeting*. (1) Except as provided in paragraph (b)(2) of this section, the Board shall announce at least one week before a meeting the time, place, and subject matter of the meeting and the name and telephone number of the official designated to respond to requests for information about the meeting. This announcement shall be sent to the FEDERAL REGISTER for publication and also posted in the main lobby of the Board's headquarters.

(2) Where a majority of the Board members determine by recorded vote that agency business requires a shorter announcement period or a change in as open meeting or portion thereof previously announced, the one-week prior-announcement rule shall be suspended and annoucement shall be made at the earliest practicable time.

§ 505b.4 Closed meetings.

(a) *Expediting regulation*. (1) This section, providing for expedited closing procedures with regard to meetings or portions thereof exempt under paragraphs (4), (8), (9)(A), or (10) of subsection (c) of the Act (paragraphs (c) (4), (8), (9)(A), or (10) of this section), is adopted as authorized by 5 U.S.C. 552b(d)(4) because a majority of the Board's meetings include deliberations which if held publicly would be likely to disclose information required or authorized by law to be kept confidential. For example, Board meetings normally include deliberation upon one or more applications for Federal charter, insurance of accounts, or an office facility, involving consideration and discussion of information contained in or related to examination, operating, or condition reports prepared by, on behalf of, or for the use of the Board in carrying out its responsibilities to regulate and supervise financial institutions subject to its jurisdiction. Board meetings also routinely include deliberations upon supervisory problem cases involving consideration and discussion of information which if disclosed could significantly endanger the stability of the financial institution in question or cases involving litigation or adjudicatory procedures. However, the Board may choose to open any meeting on an *ah hoc* basis notwithstanding that it may lawfully be closed.

(2) Where a meeting or portion thereof is to be closed under paragraph (a) of this section, a public record shall be kept of the Board Members' vote at the beginning of the meeting to close it or a portion thereof and any certification by the General Counsel that such closure is authorized by law, including a statement pertaining to the relevant exemptive provision or provisions of law. Such record shall be made available to the public at or through the Office of the Secretary to the Board. Public announcement of the time, place, and subject matter of closed meetings or portions thereof shall be made at the earliest practicable time.

(b) *Meetings closed under regular procedures*. (1) A meeting or portion thereof will be closed to public observation under regular procedures, or information as to such meeting or portion of a meeting will be withheld, only by recorded vote of a majority of the members of the Board when it is determined that such meeting or portion or the withholding of such information qualifies for exemption under paragraphs (c) (1), (2), (3), (5), (6), (7), or (9)(B) of this section. Votes by proxy are not allowed.

(2) Except as provided in paragraph (b)(3) of this section, a separate vote of the Board members will be taken with respect to the closing or the withholding of information as to each meeting or portion thereof which is proposed to be closed to public observation or with respect to which information is proposed to be withheld pursuant to paragraph (b) of this section.

(3) A single vote may be taken with respect to a series of meetings, a portion or portions of which are proposed to be closed to public observation or with respect to any information concerning such series of meetings proposed to be withheld, so long as each meeting in such series involves the same particular matters and is scheduled to be held no more than thirty days after the initial meeting in such series.

(4) Whenever any person's interests may be directly affected by a potrion of a meeting for any of the reasons referred to in paragraphs (c) (5), (6), or (7) of this section, such person may send a written request to the Secretary of the Board asking that such portion of the meeting be closed to public observation. The Secretary, or in his absence the Acting Secretary of the Board, will transmit the request to the Board members and upon the request of any one of them a recorded vote will be taken whether to close such meeting to public observation.

(5) Within one day of any vote taken pursuant to paragraph (b) of this section, the Board will make publicly available at or through the Office of the Secretary a written copy of such vote reflecting the vote of each Board member on the question. If a meeting or a portion of a meeting is to be closed to public observation, the Board, within one day of the vote taken pursuant to paragraph (b) of this section, will make publicly available at or through the Office of the Secretary a full, written explanation of its action closing the meeting or portion of the meeting together with a list of all persons expected to attend the meeting and their affiliation, except to the extent such information is determined by the Board to be exempt from disclosure under paragraph (d) of this section.

(c) *Recordkeeping*. (1) A complete transcript or recording shall be made and maintained of the proceedings at each meeting or portion thereof closed to the public under this Part, except that, where appropriate, a set of minutes may be made and maintained in lieu of such transcript or recording. Such minutes shall fully and clearly describe all matters discussed and provide a full and accurate summary of any action taken, and the reasons therefor, including a description of each of the views expressed on any item and the record of any roll-call vote (reflecting the vote of each Board member on the question). All documents considered in connection with any action shall be identified in such minutes.

(2) Such transcript, electronic recording, or minutes of the discussion of any item on the agenda, or of any item of the testimony of any witness received at the meeting, shall be made promptly

available to the public at or through the Office of the Secretary, except for such item or items of such discussion or testimony as the Board determines to contain information which may be withheld under paragraph (d) of this section. Copies of such transcript or minutes or a transcription of such recording, disclosing the identity of each speaker, shall be furnished to any person at the actual cost of duplication or transcription. The Board shall maintain a complete verbatim copy of the transcript, a complete copy of the minutes, or a complete electronic recording of each meeting, or portion of a meeting, closed to the public, for a period of at least two years after such meeting, or until one year after the conclusion of any Board proceeding with respect to which the meeting or portion thereof was held, whichever occurs later.

(d) *Exemptions.* Except in a case where the Board finds that the public interest requiries otherwise, the Board may close a meeting or portion of a meeting where it determines that disclosure of information pertaining to such meeting or portion thereof is likely to:

(1) Disclose matters that are (i) Specifically authorized under criteria established by an Executive order to be kept secret in the interests of national defense or foreign policy and (ii) In fact properly classified pursuant to such Executive order;

(2) Relate solely to the internal personnel rules and practices of the Board;

(3) Disclose matters specifically exempted from disclosure by statute (other than 5 U.S.C. 552), provided that such statute (i) Requires that the matters be withheld from the public in such a manner as to leave no discretion on the issue, or (ii) Establishes particular criteria for withholding or refers to particular types of matters to be withheld;

(4) Disclose trade secrets or commercial or financial information obtained from a person and privileged or confidential;

(5) Involve accusing any person of a crime, or formally censuring any person;

(6) Disclose information of a personal nature where disclosure would constitute a clearly unwarranted invasion of personal privacy;

(7) Disclose investigatory records compiled for law enforcement purposes, or information which if written would be contained in such records, but only to the extent that the production of such records or information would (i) Interfere with enforcement proceedings, (ii) Deprive a person of a right to a fair trial or an impartial adjudication, (iii) Constitute an unwarranted invasion of personal privacy, (iv) Disclose the identity of a confidential source or, in the case of a record compiled by a criminal law enforcement authority in the course of a criminal investigation, or by an agency conducting a lawful national security intelligence investigation, confidential information furnished only by the confidential source, (v) Disclose investigative techniques and procedures, or (vi) Endanger the life or physical safety of law enforcement personnel;

(8) Disclose information contained in or related to examination, operating, or condition reports prepared by, on behalf of, or for the use of the Board or another agency responsible for the regulation or supervision of financial institutions;

(9) Disclose information the premature disclosure of which would

(i) Be likely to (A) Lead to significant financial speculation in currencies, securities, or commodities, or (B) Significantly endanger the stability of any financial institution; or (ii) Be likely to significantly frustrate implementation of a proposed Board action, except that paragraph (d)(9)(ii) of this section shall not apply in any instance where the Board has already disclosed to the public the content or nature of its proposed action, or where the Board is required by law to make such disclosure on its own initiative prior to taking final action on such proposal; or

(10) Specifically concern the Board's issuance of a subpena, or its participation in a civil action or proceeding, an action in a foreign court or international tribunal, or an arbitration, or the initiation, conduct, or disposition of a particular case of formal Board adjudication pursuant to the procedures in 5 U.S.C. 554 or otherwise involving a determination on the record after opportunity for a hearing.

(e) The following are examples of meetings or portions of meetings which may be closed:

(1) Federal Home Loan Bank System meetings involving discount notes, bond amounts and maturities, and bond pricing;

(2) Meetings concerning institutions causing supervisory concern, formal examination, cease-and-desist, suspension, removal, or termination-of-insurance proceedings, conservatorships, or receiverships;

(3) Meetings concerning requests for insurance of accounts by existing institutions;

(4) Meetings concerning aspects of merger applications, applications for permission to convert from mutual to stock form of organization, or holding company matters, discussion of which is likely to disclose information in one or more of the categories in paragraph (d) of this section;

(5) Meetings concerning aspects of facilities applications, applications for insurance of accounts by new institutions, applications for permission to organize a Federal savings and loan association, or consideration of certain regulatory amendments, discussion of which is likely to disclose information in one or more of the categories in paragraph (d) of this section, and

(6) Meetings involving discussion respecting litigation in which the Board is involved.

§ 505b.5 Accommodation for public attendance at open meetings.

Open meetings are held in Room 630 at the Board's headquarters located at 320 First Street, N.W., Washington, D.C. 20552, at the time and on the date specified in the advance public notice; such information is also posted in the main lobby at such location. Interested members of the public may attend such meetings but may not participate therein unless invited or permitted to do so by the Board.

(Sec. 17, 47 Stat. 736, as amended; 12 U.S.C. 1437, Pub. L. 94-409; approved September 13, 1976. Reorg. Plan No. 3 of 1947, 12 FR 4981, 3 CFR, 1943-48 Comp., p. 1071.)

By the Federal Home Loan Bank Board,

RONALD A. SNIDER,
Assistant Secretary.

[FR Doc.77-1089 Filed 1-11-77;8:45 am]

SMALL BUSINESS ADMINISTRATION

[13 CFR Part 121]

SMALL BUSINESS SIZE STANDARDS

Extension of Time for Comment on Proposed New Definitions of Small Business for Government Procurements for Ship Building and Repairing, and Refuse Collection With or Without Disposal

On November 12, 1976, the Small Business Administration published in the FEDERAL REGISTER (41 FR 50002) a notice of proposal to adopt a new definition of small business for Industry No. 3731, *Ship Building and Repairing,* for the purpose of bidding on Government procurement. The public was given until December 13, 1976, to file comment thereon.

On November 15, 1976, a notice was published in the FEDERAL REGISTER (41 FR 50274) that the SBA also proposed to adopt a new definition of small business for the purpose of Government procurements for refuse collection with or without disposal. The public was given until December 15, 1976, to comment on such proposal.

In both cases we have been requested to grant an extension of time for public comment. Under all of the circumstances, we have concluded that the closing dates for filing should be extended as follows:

Shipbuilding and repairing...	Feb. 1, 1977.
Refuse collection with or without disposal.	Mar. 15, 1977.

All correspondence should be addressed to:

William L. Pellington, Director, Size Standards Division, Small Business Administration, 1441 L Street NW., Washington, D.C. 20416

(Catalogue of Federal Domestic Assistance Program No. 59.009, Procurement Assistance to Small Business)

Dated: December 30, 1976.

MITCHELL P. KOBELINSKI,
Administrator.

[FR Doc.77-1065 Filed 1-11-77;8:45 am]

[13 CFR Part 112]

NONDISCRIMINATION IN FINANCIAL ASSISTANCE PROGRAMS OF SMALL BUSINESS ADMINISTRATION

Proposed Addition of An Appendix Listing Types of Federal Financial Assistance Covered By This Part

Notice is hereby given that the Small Business Administration proposes to amend 13 CFR Part 112 to include an appendix listing the types of Federal financial assistance and the statutes authorizing such assistance covered by this part. Interested parties are hereby given until February 11, 1977 to submit written comments, suggestions or objections regarding the proposed amendment. Please send comments to the Compliance Division, Room 326, Small Business Administration, 1441 "L" Street, NW, Washington, D.C. 20416.

Accordingly Part 112 of Chapter 1 of Title 13 CFR is hereby amended by:

§ 112.2 [Amended]

1. Changing § 112.2(a) to read:

(a) This part applies to all recipients of assistance under programs administered by the Small Business Administration. (See Appendix)

2. Delete § 112.2(a) (1), (2), (3), (4), (5), (6) and (7).

3. Changing § 112.2(b) to read: This part does not apply to financial assistance extended by way of insurance or guarantee.

4. Adding an Appendix to the end of Part 112.

APPENDIX

Name of program	*Authority*
Regular business loans	Small Business Act, Sec. 7(a), 15 U.C.C. 636(a).
Economic opportunity loans	Small Business Act, sec. 7(i) (formerly title IV of the Economic Opportunity Act), 15 U.S.C. 636(i).
Revocable revolving line of credit	Small Business Act, sec. 7(a) and 7 (i) (guaranty plan only—not covered by title VI, but covered by 13 CFR 113), 15 U.S.C. 636 (a) and (i).
Pool loans	Small Business Act, sec. 7(a)(5), 15 U.S.C. 636(a) (5).
Displaced business loans	Small Business Act, sec. 7(b)(3), 15 U.S.C. 636(b) (3).
Handicapped assistance loans	Small Business Act, sec. 7(h), 15 U.S.C. 636(h).
State development company loans (501)	Small Business Investment Act, sec. 501, 15 U.S.C. 695.
Local development company loans (502)	Small Business Investment Act, sec. 502, 15 U.S.C. 696.
Disaster loans (physical, including riot)	Small Business Act, sec. 7(b) (1) as amended by secs. 231, 234, and 237 of the Disaster Relief Act of 1970, Public Law 92-385, Public Law 93-24, and Public Law 94-68, 15 U.S.C. 636(b) (1).
Disaster loans (economic injury)	Small Business Act, sec. 7(b) (2) as amended by secs. 231 and 234 of the Disaster Relief Act of 1970. Public Law 92-385, Public Law 93-24, and Public Law 94-68, 15 U.S.C. 636(b) (2).
Disaster loans (product disaster)	Small Business Act, sec. 7(b) (4) Public Law 92-385, Public Law 93-24, and Public Law 94-68, 15 U.S.C. 636(b) (4).
Disaster loans—coal mine health and safety loans	Small Business Act, sec. 7(b) (5), 15 U.S.C. 636(b) (5).
Disaster loans	Small Business Act, sec. 7(b) (5), 15 U.S.C. 636(b) (5).
Disaster loans—occupational safety and health	Small Business Act, sec. 7(b) (5), 15 U.S.C. 636(b) (5).
Disaster loans—strategic arms economic injury loans	Small Business Act, sec. 7(b) (6), 15 U.S.C. 636(b) (6).
Air pollution control loans	Small Business Act, sec. 7(b) (5), 15 U.S.C. 636(b) (5).
Disaster loans—base closing economic injury	Small Business Act, sec. 7(b) (7), 15 U.S.C. 636(b) (7).
Water pollution control loans	Small Business Act, sec. 7(g) (1), 15 U.S.C. 636(g) (1).
Emergency energy shortage economic injury	Small Business Act, sec. 7(b) (8), 15 U.S.C. 636(b) (8).
Lease guarantees [1]	Small Business Investment Act, title IV, 15 U.S.C. 692.
Surety bond guarantees [1]	Small Business Investment Act, title IV, 15 U.S.C. 694(a).
Small general contractors business loan program	Small Business Act, sec. 7(a), 15 U.S.C. 636(a).

Name of program	*Authority*
Agricultural loan program	Small Business Act, sec. 7(a) and 7(i), Public Law 94-305, 15 U.S.C. 636 (a) and (i).

[1] Not covered by this part, but covered by Part 113 of Title 13 of the Code of Federal Regulations as are all other programs involving financial assistance administered by the Small Business Administration. Part 113 prohibits discrimination based on race, color, religion, sex, marital status or national origin. In addition, those matters covered by the Equal Credit Opportunity Act, beginning March 1977, will also prohibit such discrimination based on age, source of income, or because of complaints made under the Consumer Protection Act.

Effective: January 12, 1977.

MITCHELL P. KOBELINSKI,
Administrator.

Dated: January 4, 1977.

[FR Doc.77-1066 Filed 1-11-77;8:45 am]

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[15 CFR Part 920]

PROGRAM DEVELOPMENT GRANTS REGULATIONS

Extension of Comment Period

On December 6, 1976, the National Oceanic and Atmospheric Administration (NOAA) published proposed regulations in the FEDERAL REGISTER (14 FR 53418) amending coastal management program development grant regulations pursuant to section 305 of the Coastal Zone Management Act of 1972, as amended, 16 U.S.C. Section 1451 et seq. NOAA requested that comments on the proposed regulations be submitted on or before January 5, 1977.

Following publication, a number of reviewers requested that the comment period be extended based upon an expressed need for additional time to analyze the significant issues raised by the regulations and to compensate for the intervening Christmas holiday period. NOAA has concluded that a thirty day request for extension should be approved. Accordingly, written comments may be submitted to the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, Page Building 1, 3300 Whitehaven Street, N.W., Washington, D.C. 20235, on or before February 7, 1977.

Dated: January 6, 1977.

T. P. GLEITER,
Assistant Administrator for Administration.

[FR Doc.77-1054 Filed 1-11-77; 8:45 am]

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[49 CFR Part 267]

[FRA Economic Docket No. 6, Notice No. 3]

ASSISTANCE TO STATES FOR RAIL SERVICE UNDER SECTION 402 OF REGIONAL RAIL REORGANIZATION ACT OF 1973, AND SECTION 5 OF DEPARTMENT OF TRANSPORTATION ACT

Proposed Standards and Procedures Regarding In-Kind Benefits; Extension of Comment Period

In FR Doc. 76-36291 appearing at page 54007 in the FEDERAL REGISTER of December 10, 1976, the closing date for receipt of comments regarding the proposed standards and procedures was January 10, 1977. In response to requests for an extension of time in which to respond, the closing date is hereby extended to January 17, 1977. Communications received by January 17, 1977 will be considered by the Federal Railroad Administrator before taking final action on the proposed regulation. Comments received after that date will be considered to the extent practicable.

Issued in Washington, D.C., on January 6, 1977.

ASAPH H. HALL,
Federal Railroad Administrator.

[FR Doc.77-1042 Filed 1-11-77;8:45 am]

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[50 CFR Part 17]

ENDANGERED AND THREATENED WILDLIFE AND PLANTS

Proposed Endangered or Threatened Status for 41 U.S. Species of Fauna

The Director, U.S. Fish and Wildlife Service (hereinafter, the Director and the Service, respectively), hereby issues a proposed rulemaking, pursuant to section 4 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543, 87 Stat. 884: hereinafter the Act), which would determine 13 U.S. taxa to be Endangered species and 28 such taxa to be Threatened species and which would determine Critical Habitat for 18 of these species, pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543).

BACKGROUND

Section 4(a) of the Act states:

> General.—The Secretary shall by regulation determine whether any species is an endangered species or a threatened species because of any of the following factors:
>
> (1) The present or threatened destruction, modification, or curtailment of its habitat or range;
>
> (2) Overutilization for commercial, sporting, scientific, or educational purposes;
>
> (3) Disease or predation;
>
> (4) The inadequacy of existing regulatory mechanisms; or
>
> (5) Other natural or manmade factors affecting its continued existence.

Actions by a Federal agency which result in the destruction or adverse modification of habitat considered Critical Habitat for a given Endangered or Threatened species would not confrom with section 7 of the Endangered Species Act of 1973, if such an action might be expected to result in a reduction in the numbers or distribution of that species of sufficient magnitude to place the species in further jeopardy, or restrict the potential and reasonable expansion or recovery of that species.

The authority to determine a species as Endangered or Treatened, and to determine Critical Habitat has been delegated to the Director.

On June 14, 1973, the Service entered into a contract with The Academy of Natural Sciences, Philadelphia, Pennsylvania, to investigate the status of certain snails indigenous to Eastern North America. Two final reports dated December 15 and 26, 1974, contained data indicating that several of the snails studied were either Threatened or Endangered Species as provided for by the Act. The principal investigator for this contract, Dr. George M. Davis, has recognized a cline of intergradation betwen the genera *Io*, *Lithasia*, and *Angitrema*. He has accordingly placed *armigera*, *duttoniana*, *geniculata*, *jayana*, *penguis*, *verrucosa*, *lima*, and *salebrosa* in the same genus as *Io fluvialis*. Another contract entered into between the Service and the Sierra Club Foundation, San Francisco, California, to investgate the status of California land snails produced similar results which are documented in a final report dated August 25, 1975.

A third Service contract entered into with the Sierra Club Foundation produced a final report dated September 15, 1975, on *Syncaris pacifica*.

A fourth Service contract entered into with Roanoke College produced a final report dated November 1975 on *Hybopsis cahni*, *Hybopsis monacha* and *Noturus flavipinnis*.

A fifth contract, with the New York Zoological Society, resulted in a final report on several crayfish and shrimp.

Data on the other species were received from the following: *Antrolana lira*, Thomas E. Bowman, U.S. National Museum, January 18, 1973, John Holsinger, Old Dominion University, Norfolk, Virginia, January 18, 1973; *Stygonectes hayi*, John Holsinger, Old Dominion University, Norfolk, Virginia, January 5, 1973, Thomas E. Bowman, U.S. National Museum, January 22, 1973; *Crangonyx grandimanus*, John Holsinger, Old Dominion University, Norfolk, Virginia, January 15, 1973; E. L. Bousfield, National Museum of Natural Sciences, Ottawa, Ontario, Canada, June 13, 1973; *Procambarus acherontis*, Richard Franz, Florida State Museum, Gainesville, Florida, April 12, 1974; John E. Cooper, North Carolina State Museum, Raleigh, North Carolina, March 29, 1974; *Palaemonias alabamae*, John E. Cooper, North Carolina State Museum, Raleigh, North Carolina, June 2, 1973; *Palaemonias ganteri*, Thomas C. Barr, University of Kentucky, Lexington, Kentucky, June 7, 1973; *Goniobasis semicarinata indianensis*, David Bickel, Minot State College, Minot, North Dakota, August 8, 1975; *Athearnia anthonyi*, *Athearnia crassa*, Herbert D. Athearn, Cleveland, Tennessee, October 1975; *Speoplatyrhinus poulsoni*, John E.

Cooper, North Carolina State Museum, Raleigh, North Carolina, 1975; *Etheostoma boschungi*, Herbert T. Boschung, University of Alabama, Auburn, Alabama, March 1974; *Tryonia imitator*, James J. Landye, Arizona State University, Tempe, Arizona, Allyn G. Smith, California Academy of Sciences, San Francisco, California, Dwight W. Taylor, Pacific Marine Station, Dillion Beach, California, 1975; *Algamorda newcombiana*, Barry Roth and Allyn G. Smith, California Academy of Sciences, San Francisco, California; Robert R. Talmadge, Eureka, California, 1975; *Liguus fasciatus*, Alan K. Craig, Florida Atlantic University, Boca Raton, Florida, March 12, 1974; May 1, 1974.

On March 18, 1975, the Service published a Notice in the Federal Register (40 FR 12297–12298) advising thàt a review of several fishes was underway to determine whether any were Threatened Species or Endangered Species. Three States (Virginia, North Carolina, Tennessee) commented as a result of the Notice, all favorably. This information has been considered and is incorporated into the administrative record of this Proposal.

On October 17, 1974, and April 28, 1975, the Service published Notices in the Federal Register (34 FR 37078–79 and 40 FR 18476–77) advising that a review of several of the crustacean species and the California brackish water snail was underway to determine whether any were Threatened species or Endangered species. Four States (Alabama, Virginia, Kentucky and the District of Columbia) commented as a result of those "Notices." Several States suggested or recommended further study but no State opposed their listing. This information has been considered and is incorporated into the administrative record of this proposal.

SUMMARIES OF FACTORS AFFECTING THE SPECIES

FRESHWATER CRUSTACEAN GROUP

The Service has evidence on file that the following species of freshwater crustaceans are Endangered species and Threatened species as defined by the Act: the Madison Cave isopod, *Antrolana lira*; Big South Fork crayfish, *Cambarus bouchardi*; Chickamauga crayfish, *Cambarus extraneus;* Obey crayfish, *Cambarus obeyensis;* Florida cave scud, *Crangonyx grandimmanus;* Conchas crayfish, *Orconectes deanae;* Placid crayfish, *Pacifastacus fortis;* Squirrel Chimney cave shrimp, *Palaemonetes cummingi*; Alabama cave shrimp, *Palaemonias alabamae;* Kentucky cave shrimp, *Palaemonias ganteria*; Palm Springs cave crayfish, *Procambarus acherontis;* Hay's Spring scud, *Stygonectes hayi;* California freshwater shrimp, *Syncaris pacifica;* Nashville crayfish, *Orconectes shoupi;* Louisville crayfish, *Orconectes jeffersoni*.

Section 4(a) of the Endangered Species Act of 1973 states that the Secretary of the Interior or the Secretary of Commerce may determine a species to be an Endangered species, or a Threatened species, because of any of five factors. One of these factors, and its application to these species, is as follows:

The present or threatened destruction, modification, or curtailment of its habitat or range.—Madison Cave isopod, *Antrolana lira*—Proposed Endangered—is known only from Madison Cave in Augusta County, Virginia. Madison Cave is privately owned and was once commercial. Madison Cave has great historical significance, and the commercial activity could resume at some later date. This genus has not been collected from other caves in the drainage system of the South Fork of the Shenandoah River, and is one of only two cave cirolanid isopod species found in the United States. The other one is found in Texas and these are of high scientific importance to students of biospeleology, evolution, and biogeography. Extensively searched for in other caves, but not found, this crustacean is one of the most unusual and unique cave species in the country, because it is the only species in its genus and it is an ancient Paleozoic marine-like relic. It is endangered by heavy visitation, which has resulted in vandalism, trash accumulation, and siltation of the two lakes in the cave containing this species. Other disturbances include people standing near the edge and thereby causing the talus to creep into the water.

Its troglobitic nature makes it particularly susceptible to changes in water quality and siltation. These factors interfere with the natural flow of detrital energy into the cave.

Nashville crayfish, *Orconectes shoupi*—Proposed Endangered—is restricted to Mill Creek in Davidson and Williamson Counties, Tennessee. It has a very limited distribution, primarily within the city and suburbs of Nashville, Tennessee. A recent survey of streams adjacent to this stream system failed to reveal the presence of this species. It requires pool areas with flattened, limestone slabs and rocks of varying sizes on a predominantly gravel and limestone bedrock and it has a specific silt requirement. The population of Nashville-Davidson grew from 170,974 in 1960 to 447,877 in 1970. It is endangered by further siltation, channelization, dredging, degradation of water quality and the other adverse factors that have resulted from the rapid urbanization of this area.

Louisville crayfish, *Orconectes jeffersoni*—Proposed Endangered—is restricted to Beargrass Creek, lower tributaries of Harrods Creek, and the Pond Creek system, Jefferson, Oldham and Bullitt Counties, Kentucky. It has not been found in streams adjacent to these stream systems. It is threatened by degradation of water quality, ditching, siltation, and lies within and around the city of Louisville, Kentucky, which is an area of actual and potential residential, commercial, and industrial growth. Concentrations of mercury, lead, cadmium, zinc, copper, and arsenic exist in these three localities which are toxic to aquatic species.

Big South Fork crayfish, *Cambarus bouchardi*—Proposed Threatened—is restricted to the Roaring Paunch Creek system in Tennessee and Kentucky. It has not been found in nearby creeks and is not expected there where its congener, *Cambarus (jugicambarus) distans* is common. Mining of coal is prevalent and the presence of sulphuric acid poisoning makes the existence of this species threatened. This area is centered in the southern Appalachian coal region. A draft EIA prepared by the Department of the Interior on the Coal Research and Development program indicates that by 1968 over 5000 miles of streams in Appalachia were made inhospitable to fish because of acid mine drainage. Sulpher compounds associated with mining form because of acid mine drainage. Sulphur

Chickamauga crayfish, *Cambarus extraneus*—Proposed Threatended—is restricted to the South Chickamauga Creek system in southeastern Tennessee and northwestern Georgia. It has not been found in other streams in this area. It is threatened by pollution (including ammonia, zinc, and low disolved oxygen) from Chattanooga, Ringgold, Chickamauga, and Tunnel Hill. It is also threatened by channelization of 6.9 miles of South Chickamauga Creek by the Tennessee Valley Authority.

Obey crayfish, *Cambarus obeyensis*—Proposed Threatened—is restricted to Hurricane Creek, Little Hurricane Creek and Meadow Creek, all tributary to the Obey River in Tennessee. A survey of other streams in this area failed to reveal the presence of this species. It requires adequate covering in the form of numerous rocks for spacial relationships for individuals. This habitat over sandstone and shale deposits is spotty.

This species is threatened by acid mine wastes in its headwater habitat in the breakdown of pyrite associated with coal deposits. The aquatic life in the upper portion of the East Fork of the Obey River has already been eliminated due to this problem.

Florida cave scud, *Crangonyx grandimanus*—Proposed Threatened—is known only from a well near Miami, and from two caves in north central Florida: Indian Cave seven miles southwest of Ocala in Marion County, and Huggin's Cave west of Gainesville in Alachua County. Extensive collecting in caves and wells in the general area and elsewhere has failed to locate this species. It is one of only two North American species in the genus *Crangonyx* completely lacking eye structures. This cave and underground freshwater crustacean is threatened by rapid urbanization, ground water pollution, lowering of water tables, and overcollecting. The populations of Gainesville, Ocala, and Miami grew 1960 to 1970 respectively: 29,701–64,510; 13,598–22,583; 291,688–334,859. The Ocala system of drainage wells will not expand until pollution problems are solved due to State regulations. This animal requires constant temperature, darkness, and a specific high pH. Its troglobitic nature makes it particularly susceptible to changes in water quality and siltation.

Conchas crayfish, *Orconectes deanae*—Proposed Threatened—was discovered in 1960 in Conchas Lake in San Miguel County, New Mexico. The publication of the description of this species was completed in 1975. It is known only from Conchas Lake, Conchas River, and Conchas Canal tributary to the Canadian River System in San Miguel and Quay County, New Mexico. It reaches its greatest abundance in Conchas Lake. In this area the crayfish typically inhabits lentic areas. It also burrows in the bed of the Conchas Canal, an irrigation canal which carries water nine months of the year. Populations in this canal are limited and do not appear to be spreading or increasing. Suitable habitat in adjacent areas was searched, but no other populations were found. It is potentially jeopardized by competition with the recently introduced crayfish.

Orconectes rusticus. Such problems have been frequent among crayfish, particularly in disturbed habitats such as this one.

Placid crayfish, *Pacifastacus fortis*—Proposed Threatened—is restricted to the Fall River, Hat Creek and a spring system, all tributary to the Pit River, in Shasta County, California. It requires lower elevation, slowly to moderately moving waters. It is threateneded by competition with the aggressive and introduced *Orconectes virilis*. *O virilis* has become established in the original range of *P. fortis* and has a history of replacing native American crayfish.

Squirrel Chimney cave shrimp, *Palaemonetes cummingi*—Proposed Threatened—is restricted to Squirrel Chimney, a sink hole in Alachua County, Florida. This species, like other cave limited species, is extremely vulnerable to any disruption in the natural flow of detrital energy into the cave system. In the past an attempt was made to close the sink hole with trash. However, when the owners were made aware of the uniqueness of Squirrel Chimney the sink hole was reopened and nearly returned to its former condition. The owners have indicated that they wish to protect this species, but the ownership could pass on at some later date. It is essential that the surface area around the sinkhole entrance remain unchanged to prevent the alteration of detrital flow into the cave.

Alabama Cave shrimp, *Palaemonias alabamae*—Proposed Threatened—is restricted to Shelta Cave, and Bobcat Cave, Red Stone Arsenal, Huntsville, Alabama. It is colorless and eyeless and cannot be confused with any other shrimp in the area. It is very rare in the type locality, there being probably less than 200 living individuals. Its location in a major city makes it highly vulnerable to ground water pollution and construction activities. The population of Huntsville almost doubled between 1960 and 1970 (72,365–137,802). Pollution in the Red Stone Arsenal attributed to street run-off has already caused the extinction of a snail, *Marstonia olivacea*.

Kentucky cave shrimp, *Palaemonias ganteri* — Proposed Threatened — is known in only two pool systems in Mammoth Cave National Park: in the Roaring River passage, and near Golden Triangle at Flint Ridge. This colorless, eyeless, freshwater shrimp is rare and known only from small populations in these localities in Kentucky, although it was formerly more abundant along tourist trails in the Echo River area. Being in a National Park, it is well protected from collecting, vandalism, etc., but it nevertheless periodically receives pollution from sewage from facilities in the area, and has been considerably reduced in population during the past forty years. Premature flooding of breeding pools by early opening of floodgates in Nolin River Dam caused extensive damage in 1967 and remains a danger. There is a similar danger from Green River Dam. This animal depends on annual flooding of relatively quiet pools in Autumn because at that time the water levels are lowest, there is a secondary production of microorganisms, and the majority of the young hatch.

Palm Spring cave crayfish, *Procambarus acherontis*—Proposed Threatened—was known from a well in Orange County, Florida and Palm Springs, Seminole County, Florida in the Orlando metropolitan area. It has been extensively searched for, but is presently restricted to Palm Springs, Seminole County, Florida. This species is Threatened by potential ground water pollution and drawdown of the local aquifer due to rapid urbanization.

Hay's Spring scud, *Stygonectes hayi*—Proposed Endangered—is a blind white crustacean known only from a single spring in the National Zoological Park in Washington, D.C. Once more widespread, it is now greatly restricted in habitat, and has been extensively looked for in recent years. It is endangered by ground water pollution from street run-off, deicing, increased temperature caused by development, automobile exhaust, pesticides, introduced alien species, and eutrophication.

California freshwater shrimp, *Syncaris pacifica*—Proposed Threatened—is one of three known species of the family Atyidae of shrimp which colonized freshwaters during Jurassic times. The other two North American species of the family Atyidae, *Palaemonias ganteri* and *P. alabamae*, are also being proposed for listing as Endangered and Threatened species. There once was another species in the genus *Syncaris*, but this freshwater shrimp, *Syncaris pasadenae*, has not been found since 1933. It was eliminated by freeways, parking lots, channelization and especially the conversion of streams to concrete floodways and freeway routes. The California freshwater shrimp was formerly known from the Napa River, Lagunitas Creek, Stemple Creek, Salmon Creek, Santa Rosa Creek, Blucher Creek, Laguna Santa Rosa and East Austin Creek. It is today restricted to East Austin Creek and Salmon Creek in Sonoma County, California and Lagunitas Creek in Marin County, California. In East Austin Creek it is depleted, a victim of inadequate leach fields for septic tanks, domestic sewage pollution and summer recreation dams, and swimming ponds. In Salmon Creek it is endangered by dredging for gravel, pollution spills of undetermined origin and a proposed sewer pipeline. In Lagunitas Creek it is endangered by the proposed alternation of the public water supply system.

In summary, four of the crustacean group are proposed as "Endangered" because they are restricted to very small areas or occur in small numbers and are in immediate danger of extinction throughout their range. The other 14 species are proposed as "Threatened" because they occur over a wider range or in larger numbers and are potentially in jeopardy over most of their range.

SOUTH CENTRAL GROUP

The Service has evidence that the following fourteen (14) taxa of river snails and five taxa of fish are Endangered species or Threatened species as provided for by the Act: Anthony's river snail (*Athearnia anthonyi*); Crass river snail (*Athearnia crassa*); Indiana river snail (*Gonibasis semicarinata indianensis*); Armigerous river snail (*Io armigera armigera*); Dutton's river snail (*Io armigera duttoniana*); Jay's river snail (*Io armigera jayana*); spiny river (*Io fluvialis*); Geniculate river snail (*Io geniculata geniculata*); Small geniculate river snail (*Io geniculata penguis*); Rugged river snail (*Io salebrosa*); Verrucose river snail (*Io verrucosa verrucosa*); Elk river File snail (*Io verrucosa lima*); Umbilicate river snail (*Leptoxis subglobosa umbilicata*); Mainstream river snail (*Leptoxis praerosa*); Slackwater darter (*Etheostoma boschungi*); Slender chub (*Hybopsis cahni*); Spotfin chub (*Hybopsis monacha*); Yellowfin madtom (*Noturus flavipinnis*); and Alabama cave fish (*Speoplatyrhinus poulsoni*).

Section 4(a) of the Endangered Species Act of 1973 states that the Secretary of the Interior or the Secretary of Commerce may determine a species to be an Endangered species, or a Threatened species, because of any of five factors. One of these factors, and its application to these species is as follows:

The present or threatened destruction, modification, or curtailment of its habitat or range.—

Anthony's river snail, *Athearnia anthonyi*—Proposed Threatened—was formerly known from the Tennessee River, Knox County, Tennessee to Lauderdale County, Alabama, lower French Broad and Clinch Rivers, eastern Tennessee; Elk River, Alabama; smaller tributaries of the Tennessee River from Little Tennessee River, Tennessee to Limestone County, Alabama. It was discovered in 1854 and long thought to be extinct, but is surviving in the Nolichucky, Little Tennessee and Tellico Rivers in eastern Tennessee. This large distinct snail is threatened in the Little Tennessee River and Tellico River by the construction of Tellico Dam; in the Nolichucky River by severe pollution, including zinc, copper, nickel, mercury, cadmium, and ammonia of unknown origin and in the Tellico River by ammonia and low pH. Low pH is particularly harmul to the shells of snails which it dissolves. Changes in normal stream temperatures due to operation of upstream impoundments constitutes an additional threat to this species.

The other species in the genus, the crass river snail, *Athearnia crassa*—Proposed Threatened—was formerly known from the Powell River; Clinch River and Beaver Creek, Tennessee. It is presently restricted to three stream systems. In South Chickamauga Creek, Georgia, it is threatened by pollution (including ammonia, zinc and low dissolved oxygen) from Ringold and by accidental spillages such as sulfuric acid and chlorine. In the Elk River, Tennessee it is threatened by the influence of Tims Ford Reservoir on the stream flow and temperature regimes and by zinc and mercury pollution. In the Sequatchie River, Tennessee it is threatened by heavy metal pollution (copper, cadmium, zinc and mercury).

Armigerous river snail, *Io armigera armigera*—Proposed Endangered—was formerly known from the Wabash River, the Cumberland River, the Stones River, the Harpeth River and the Ohio River in Tennessee, Indiana, Illinois, Kentucky, and Alabama. It is today restricted to the tail-waters of Kentucky Dam in the Tennessee River, Kentucky. It is endangered by extremely high levels of arsenic, chromium, mercury, and zinc, toxic to aquatic life.

Dutton's river snail, *Io armigera duttoniana*—Proposed Threatened—is the small-stream form of *Io armigera* and is restricted to the Duck River in Tennessee. The recent completion of Normandy Dam, has rendered the uppermost population effectively extinct, and Columbia Dam, also under construction at the present time by the Tennessee Valley Authority, will eliminate half of the populations of this subspecies. Downstream effects of these two dams may eliminate the remaining populations of this subspecies. Threats include smothering by sediments produced during construction and inundation with the change from a flowing to a lake environment. Downstream of the reservoirs, threats include the change of water temperature and changes in the daily fluctuations in the water, temperature and water flow. Pollution abatement required to secure this mollusk includes abating municipal effluent from Normandy, Manchester, Columbia (including tannery wastes) and Shelbyville. Control of siltation from phosphate ore mining is important.

Jay's river snail, *Io armigera jayana*—Proposed Endangered—was formerly known from Caney Fork and South Fork of the Cumberland River, Tennessee, but is now restricted to the Duck River in Tennessee. This is the large river form of *Io armigera*. This species is endangered by the impoundments and their construction. It is also endangered by municipal effluent from Normandy, Manchester, Shelbyville and Columbia; by tannery wastes, and phosphate ore mining.

Geniculate river snail, *Io geniculata geniculata*—Proposed Threatened—was formerly an inhabitant of the Cumberland River in Kentucky, the Caney Fork of the Cumberland River, and the Stones River, but is today restricted to the Duck River and the Buffalo River. The construction of dams on the Duck River will directly eliminate ⅓ of the populations of this form and may indirectly eliminate another ⅓. Pollution threatens the remaining populations in the Duck River. The demise of the clam population in the Buffalo River indicates the existence of probable pollution. The source of this pollution is not known.

Small geniculate river snail, *Io geniculata penguis*—Proposed Threatened—is the small, rather rounded form of *Io geniculata* formerly known from the headwaters of the Holston River drainage. Caney Fork of the Cumberland River and the Coosa River drainage. It is now restricted to the Collins River, below McMinnville, Tennessee where it is threatened by pollution including (at Caney Fork) zinc and ammonia and the Duck River above Manchester, Tennessee, where it is also threatened by pollution including mercury.

Verrucose river snail, *Io verrucosa verrucosa*.—Proposed Endangered—was formerly known from the Tennessee River, Cypress Creek and Flint River in Alabama, the Black River in Arkansas, the Etowah River in Georgia, the Wabash River in Indiana, the Ohio River and the Tennessee River in Kentucky, the Big Black River in Mississippi and Nolichucky River, French Broad River, Holston River, Clinch River, Little Tennessee River, Elk River, Little Pigeon River, Little River, Tellico River and Beaver Creek in Tennessee, but is today evidently restricted to the Tennessee River and Nolichucky River in Tennessee. It is found in the Tennessee River, Kentucky and Tennessee, only in the tailwaters of the Kentucky Dam where it is threatened by copper, mercury, zinc, and arsenic and in the tailwaters of Pickwick Dam where it is threatened by sedimentation and chemical pollution, including ammonia, nickel and mercury. In the mid-Nolichucky River where it is also found, serious pollution including ammonia, nickel, zinc, and mercury, has in general already greatly reduced the molluscan fauna.

Elk river file snail, *Io verrucosa lima*—Proposed Threatened—was formerly known from the Tennessee River system in Alabama and Tennessee, but is today restricted to the Elk River in Tennessee and Alabama. It is threatened by pollution including mercury from Pulaski, Fayetteville, and Tullahoma, Tennessee.

Rugged river snail, *Io salebrosa*—Proposed Endangered—was formerly known from the Cumberland River, Duck River, Caney Fork of the Cumberland River and the Tennessee River, but is today restricted to the Duck River in Tennessee. The proposed Columbia Dam will inundate the only known locality for this species. It is also endangered by pollution from Shelvyville, Tennessee.

Umbilicate river snail, *Leptoxis subglobosa umbilicata*—Proposed Threatened—is a clinal form which is fully developed and genetically secure only in the Stones River, Tennessee. In the Stones River it is threatened by pollution including low dissolved oxygen, manganese and strontium, from Murfreesboro, Woodbury and Smyrna.

Mainstream river snail, *Leptoxis praerosa*—Proposed Endangered—was formerly known from the Ohio River, the Cumberland River, the Nolichucky River, the Duck River and the Tennessee River, but is today restricted to the Nolichucky River. Serious pollution including ammonia, nickel, zinc, and mercury has in general already greatly reduced the molluscan fauna.

Indiana river snail, *Goniobasis semicarinata indianensis*—Proposed Threatened—is known only from about ten miles of Blue River, Indiana and from a small tributary spring of Blue River. Although the population has apparently not yet declined, it is threatened by industrial pollution and partially treated municipal pollution from Salem, New Pekin, Palmyra, and Milltown.

Spiny river snail, *Io fluvialis*—Proposed Endangered—was formerly known in the French Broad River system where it was destroyed by industrial pollution, in the Holston River and Tennessee River where it was destroyed by impoundments, industrial pollution and acid mine wastes and from the lower Powell and Clinch Rivers where it was destroyed by impoundments and from the upper Powell River where it was destroyed by acid mine wastes. It is barely hanging on in the middle Powell River and in the middle Nolichucky River. It is endangered by severe pollution in the Powell River where the fauna is greatly reduced. A resurgance in strip-mining endangers the Clinch River populations. It is also endangered by fly ash waste, and concentrated chlorinated municipal wastes which are extremely toxic and channelization of the upper Clinch River in Tazewell County, Virginia.

The geographic range of the slackwater darter, *Etheostoma boschungi*—Proposed Threatened—is four tributaries to the southern bend of the Tennessee River in northern Alabama and southwestern Tennessee. It is known from one locality in the headwaters of the Buffalo River in Lawrence County, Tennessee; 19 localities in Cypress Creek drainage in Wayne County, Tennessee, and Lauderdale County, Alabama; three localities in Susan Creek in Limestone County, Alabama; and three localities in the Flint River drainage in Madison County, Alabama. Intensive collecting in adjacent drainages has failed to demonstrate the presence of the slackwater darter. The habitat of *Etheostoma boschungi* is small to medium-sized streams with moderate to slow current. It seems to prefer bottom conditions characterized by an accumulation of leaves and detritus, but in some areas it has been found in association with clean silt, sand, and small gravel substrates.

Over the past five years periodic sampling of the slackwater darter in the headwaters of the Buffalo River in Lawrence County, Tennessee, has indicated that its population is extremely small and limited. In this area the species is confined to a short segment of a very small stream and the number of individuals in this population is apparently quite low. The population of *Etheostoma boschungi* in the Flint River drainage in Madison County, Alabama, is similarly small and limited. Changing land use patterns associated with the growth of the city of Huntsville, Alabama, jeopardizes the survival of the population in this system. The Susan Creek population is threatened by a stream channelization project.

Of the four stream systems inhabited by the slackwater darter the largest population and the stronghold of the species is in the Cypress Creek drainage system. As presently planned the proposed Soil Conservation Service project for the Cypress Creek Watershed will adversely affect the species. The project will result in the destruction of habitat through the construction of headwater impoundments, new channel excavations, bedload removal and other stream alterations.

Slender chub, *Hybopsis cahni*—Proposed Threatened—is restricted to the Clinch and Powell Rivers in Tennessee above Norris Reservoir and is threatened by the coal industry effluents which are on the increase, municipal wastes and the continuing risk of chemical spillage including fly ash and sulfuric acid. A coal output of 30,000,000 tons is projected for this area by the year 2000. Many of the 24 authorized sewage dischargers are overloaded and not capable of producing an acceptable effluent under current water quality standards. Gravel removed from sand and gravel bars in the river channel and the resulting siltation is a threat at one locality.

Spotfin chub, *Hybopsis monacha*—Proposed Threatened—is restricted to the Tennessee River drainage where it once occurred widely in twelve tributary systems distributed among five States, but is today known only from the lower North Fork of the Holston River, Virginia and Tennessee; in the Emory River, Clear Creek tributary of the Emory River System, Tennessee; and the upper Little Tennessee River, North Carolina. Only in the Emory River system is this species still abundant, although it appears to be recovering in the Little Tennessee River in North Carolina.

Threats to this species include runoff from coal mining, operations, municipal and industrial wastes, and siltation.

Yellowfin madtom, *Noturus flavipinnis*—Proposed Threatened—is restricted to the Powell River in Tennessee, and Copper Creek tributary to the Clinch River in Virginia. It was formerly known from Chickamauga Creek in Georgia, Hines Creek in Tennessee and the North Fork of the Holston River in Virginia. It is threatened by coal mining and coal washing in the Powell River, siltation and enrichment from agricultural operations in Copper Creek. The risk of chemical spillage where the rivers are crossed by major roads, is a potential threat.

Alabama cave fish, *Speoplatyrhinus poulsoni*—Proposed Threatened—is a blind, white, troglobitic cave fish known only from a cave in Lauderdale County, Alabama. It may occur in other subterranean waters of the area, but is definitely absent from nearby caves and other caves which were inundated by Pickwick Lake. It is threatened by disruption of the ecosystem through interference with bat populations and groundwater pesticide pollution due to agricultural operations. A proposed industrial park in this area constitutes an additional threat. Few eggs are produced per female and reproduction does not occur every year.

In summary, six of the south central group are proposed as "Endangered" because they are restricted to very small areas or occur in small numbers and are in immediate danger of extinction throughout their range. The other 13 species are proposed as "Threatened" because they occur over a wider range or in larger numbers and are potentially in jeopardy over most of their range.

FLORIDA TREE SNAIL GROUP

Section 4(a) of the Endangered Species Act of 1973 states that the Secretary of the Interior or the Secretary of Commerce may determine a species to be an Endangered Species or a Threatened Species because of any of five factors. These factors and their application to the Florida Tree Snail are as follows:

1. *The present or threatened destruction, modification, or curtailment of its habitat or range.*—There are 52 known forms of the Florida Tree Snail, *Liguus fasciatus*. Eight of these, *solidus*, *innominatus*, *crassus*, *splendidus*, *pseudopictus*, *dohertyi*, *farnumi*, and *violafumosus* are considered extinct, victims of land clearing, hurricanes, building of fishing camps and other tourist attractions, intensive fogging for mosquito control, and the leveling of hammock after hammock for housing and highways. Thirty-one additional forms are jeopardized by these and other factors such as jetport construction. These are *solidulus*, *dryas*, *osmenti*, *capensis*, *gloriasylvaticus*, *nebulosus*, *septentrionalis*, *solisoccasus*, *walkeri*, *alternatus*, *deckerti*, *delicatus*, *graphicus*, *lineolatus*, *lineatus*, *matecumbensis*, *miamiensis*, *pictus*, *subcrenatus*, *testudineus*, *vonpaulseni*, *elliottensis*, *lucidovarius*, *lignumvitae*, *roseatus*, *simpsoni*, *vacaensis*, *mosieri*, *foscoflammellus*, *livingstoni*, and *wintei*. Many of these forms have been introduced successfully into the Florida Everglades, but they are jeopardized there by wild fires, especially during drought, and by drainage of adjacent lands resulting in a lowering of the water table.

2. *Overutilization for commerciol, sporting, scientific, or educational purposes.*—All 31 forms are jeopardized by over-collecting and bring high prices on the market. Collectors pay $50 or more for rare shells. One family has collected over 10,000 shells.

3. *Disease or predation.*—The introduction of the Key Largo woodrat and Key Largo deer mouse to Lignumvitae Key jeopardizes the form *lignumvitae*.

4. *The inadequacy of existing regulatory mechanisms.*—In the national park, it is now unlawful to remove the tree snail, but there is considerable poaching.

5. *Other natural or manmade factors affecting its continued existence.*—Not applicable.

The population of *Liguus fasciatus* occurring on the Florida Keys from Key West north to Sands Key and on Cape Sable is restricted to a very small range, occurs in small numbers and is in immediate danger of extinction throughout most of the area. It is therefore, proposed as Endangered.

The population of *Liguus fasciatus* occurring in the rest of Florida is more widely distributed, occurs in larger numbers, but is potentially in jeopardy over most of its range. It is therefore proposed as Threatened.

WESTERN SNAIL GROUP

The Service has evidence that the following five taxa of Western snails are Endangered species or Threatened species as provided for by the Act. The concentrated snail *Micrarionta facta;* prickly pear snail, *Micrarionta opuntia;* Newcomb's littorine snail, *Algamorda newcombiana;* Cape Mendocino snail, *Helminthoglypta arrosa mattolensis;* and the California brackish water snail, *Tryonia imitator*. The five criteria of Section 4(a) of the Act, and their application to the above-named species, are as follows:

1. *The present or threatened destruction, modification or curtailment of its habitat or range.*—Prickly pear snail, *Micrarionta opuntia*—Proposed Threatened—is restricted to San Nicolas Island, California. It appears to be a descendant of *Micrarionta sodalis* which is extinct. It is associated in all cases with impressions or small animal burrows in stabilized soil at the base of the prickly pear plant, *Opuntia littoralis*, the name sake of the snail. *Opuntia littoralis* is also essential habitat for the proposed endangered Island Night Lizard. It is threatened by poor land management including overgrazing by goats, which has caused major erosion thus eliminating stabilized soil and adequate plant cover.

The concentrated snail, *Micrarionta facta*—Proposed Endangered—is known only from Santa Barbara Island, California and endangered by introduced species including the ice plant and deermice and by accidental destruction of habitat such as brush fires. While presently common where found, *Micrarionta facta* is less abundant than formerly due to the alteration of vegetative cover within historic times. It was gathered by the thousands around the turn of the century. This species occupies a specialized habitat on a small island. The habitat consists of unconsolidated soil under rocks below about 250 feet elevation, and always in sheltered rock situations. Increased recreational use of the island would further restrict and jeopardize the available habitat.

Cape Mendocino snail, *Helminthoglypta arrosa mattolensis*—Proposed Threatened—is restricted to a short segment of coast line in Humboldt County, California. The habitat of this species is typically brushfields. It is threatened by overgrazing by cattle, which has already destroyed most of the original habitat.

California brackish water snail, *Tryonia imitator*—Proposed Endangered—formerly found in most coastal lagoons or brackish water estuarine stream mouth habitats from Bodega Bay to San Diego Bay. This species may become extinct relatively soon because the small amount of true brackish water habitat remaining continues to be eliminated by road construction and other causes.

Dredging for navigation and the construction of roads across the mouths of lagoons and estuaries, cutting them off from the sea, have turned many previously brackish areas into freshwater habitats, eliminating the snail. Silt runoff from eroding short areas, residential and industrial development, and pollution have also modified or destroyed the habitat.

It has been extirpated from Morro Bay, San Luis Obispo Creek, Oakland, Half Moon Bay, the Santa Cruz River, a lagoon south of Santa Cruz, the mouth of the Los Angeles River at San Pedro, Guadalupe, and Encinada Lagoon in Baja California. Now, its only confirmed localities are Pescadero Point, where it is protected in a park; Elkhorn Slough; and the mouth of the San Diego River, in 200 feet of a flood control channel.

Newcomb's littorine, *Algamorda newcombiana*—Proposed Threatened—is a brackish-water salt-marsh snail known only from Humboldt Bay, California, as small colonies at the north and south ends, Coos Bay, Oregon, and Grays Harbor, Washington. It was reported from Neah Bay and Willapa Bay, Washington, and Siletz Bay, Oregon, some time ago, but is no longer found there.

Formerly known throughout Humboldt Bay, it has been greatly reduced in numbers. It is restricted to the marsh succulent, *Salicornia*, or the muddy substrate immediately below and is submerged in sea water only a few hours per year. It has declined in numbers as a result of filling and the activity of saw mills in the area which create a blanket of half-burned sawdust over the habitat.

It is threatened in Coos Bay by log storage on the mud flats and the effluent of treated sawdust chips which goes into this bay. It is further threatened in Coos Bay by channelization and dredging by the United States Army Corps of Engineers. In Grays Harbor it is potentially threatened by oil spill, pulpmill waste, and municipal waste.

2. *Overutilization for commercial, sporting, scientific or educational purposes.*—*Helminthoglypta arrosa mattolensis* is one of the largest, most attractive of northern California snails and has considerable appeal to some collectors.

3. *Disease or predation.*—The concentrated snail, *Micrarionta facta* is preyed upon by exotic deermice.

4. *The inadequacy of existing regulatory mechanisms.*—No regulatory mechanisms adequate to protect these species from overcollecting, presently exist.

5. *Other natural or manmade factors affecting its continued existence.*—Not known to be applicable to any of the six above-named species.

In summary, two of the California group are proposed as Endangered because they are restricted to very small areas or occur in small numbers and are in immediate danger of extinction throughout their range. The other three species are proposed as Threatened because they occur over a wider range or in larger numbers and are potentially in jeopardy over most or their range.

DESCRIPTION OF THE PROPOSAL

Determination that an animal is a Threatened or Endangered species would, among other things, make that species, including any part, product, egg or offspring thereof, or the dead body or parts thereof subject to the prohibitions of section 9(a)(1) of the Act. Those prohibitions, among other things, were published as regulations in the FEDERAL REGISTER of September 26, 1975 (40 FR 44423) and, for the convenience of the reader, are reprinted below:

§ 17.21 Prohibitions.

(a) Except as provided in Subpart A of this part, or under permits issued pursuant to § 17.22 or § 17.23, it is unlawful for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit or to cause to be committed, any of the acts described in paragraphs (b) through (f) of this section in regard to any endangered wildlife.

(b) *Import or export.* It is unlawful to import or to export any endangered wildlife. Any shipment in transit through the United States is an importation and an exportation, whether or not it has entered the country for customs purposes.

(c) *Take.* (1) It is unlawful to take endangered wildlife within the United States, within the territorial sea of the United States, or upon the high seas. The high seas shall be all waters seaward of the territorial sea of the United States, except waters officially recognized by the United States as the territorial sea of another country, under international law.

(2) Notwithstanding paragraph (c)(1) of this section, any person may take endangered wildlife in defense of his own life or the lives of others.

(3) Notwithstanding paragraph (c)(1) of this section, any employee or agent of the Service, any other Federal land management agency, the National Marine Fisheries Service, or a State conservation agency, who is designated by his agency for such purposes, may, when acting in the course of his official duties, take endangered wildlife without a permit if such action is necessary to:

(i) Aid a sick, injured or orphaned specimen; or

(ii) Dispose of a dead specimen; or

(iii) Salvage a dead specimen which may be useful for scientific study; or

(iv) Remove specimens which constitute a demonstrable but nonimmediate threat to human safety, provided that the taking is done in a humane manner; the taking may involve killing or injuring only if it has not been reasonably possible to eliminate such threat by live-capturing and releasing the specimen unharmed, in a remote area.

(4) Any taking pursuant to paragraphs (c) (2) and (3) of this section must be reported in writing to the United States Fish and Wildlife Service, Division of Law Enforcement, P.O. Box 19183, Washington, D.C. 20036, within 5 days. The specimen may only be retained, disposed of, or salvaged in accordance with directions from the Service.

(d) Possession and other acts with unlawfully taken wildlife. (1) It is unlawful to possess, sell, deliver, carry, transport, or ship, by any means whatsoever, any endangered wildlife which was taken in violation of paragraph (c) of this section.

Example. A person captures a whooping crane in Texas and gives it to a second person, who puts it in a closed van and drives thirty miles, to another location in Texas. The second person then gives the whooping crane to a third person, who is apprehended with the bird in his possession. All three have violated the law—the first by illegally taking the whooping crane; the second by transporting an illegally taken whooping crane; and the third by possessing an illegally taken whooping crane.

(2) Notwithstanding paragraph (d)(1) of this section, Federal and State law enforcement officers may possess, deliver, carry, transport or ship any endangered wildlife taken in violation of the Act as necessary in performing their official duties.

(e) Interstate or foreign commerce. It is unlawful to deliver, receive, carry, transport, or ship in interstate or foreign commerce, by any means whatsoever, and in the course of a commercial activity, any endangered wildlife.

(f) Sale or offer for sale. (1) It is unlawful to sell or to offer for sale in interstate or foreign commerce any endangered wildlife.

(2) An advertisement for the sale of endangered wildlife which carries a warning to the effect that no sale may be consummated until a permit has been obtained from the U.S. Fish and Wildlife Service shall not be considered an offer for sale within the meaning of this subsection.

Although the Act authorizes the Secretary to publish "* * * such regulations as he deems necessary and advisable for the conservation of * * *" any species determined to be a Threatened species, no special regulations are proposed for all but 13 of the species herein proposed to be determined Threatened species. Lacking any such special regulations, all of the prohibitions set forth in § 17.21 would apply to such Threatened species as well as any Endangered species. Four fish proposed as Threatened could be taken in accordance with State law. For the nine other species for which regulations are proposed, none of the prohibitions of Section 9 apply, except that no live animal may be taken for the purpose of introducing outside of its natural range.

Section 3(14) of the Act defines the term "take" as follows:

> (14) The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

It should be noted that a determination that an animal is an Endangered species or a Threatened species generally imposes no restrictions upon: otherwise unlawful possession; the *intrastate* sale; nor upon the *interstate* movement of such specimens unless such movement is in the course of a commercial activity involving a change of ownership of the specimen. In this context, the term "commercial activity" is defined in Section 3(1) of the Act as follows:

> (1) The term "commercial activity" means all activities of industry and trade, including, but not limited to, the buying or selling of commodities and activities conducted for the purpose of facilitating such buying and selling.

The terms "industry or trade," as used in the above definition, were defined in the September 26, 1975, Federal Register (40 FR 44416) as follows:

> Industry or trade in the definition of "commercial activity" in the Act means the actual or intended transfer of wildlife or plants from one person to another person in the pursuit of gain or profit.

In the case of Endangered or Threatened wildlife, regulations published in 40 FR 44412 provide for the issuance of permits to carry out otherwise prohibited activities under certain circumstances. Such permits are available for scientific purposes or to enhance the propagation or survival of the species. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship which would be suffered if such relief were not available.

Determination that an animal is a Threatened or an Endangered species makes that species eligible for the protection provided by section 7 of the Act which reads as follows:

> INTERAGENCY COOPERATION
>
> Sec. 7. The Secretary shall review other programs administered by him and utilize such programs in furtherance of the purposes of this Act. All other Federal departments and agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to section 4 of this Act and by taking such action necessary to insure that actions authorized, funded, or carried out by them do not jeopardize the continued existence of such endangered species and threatened species or result in the destruction or modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with the affected States, to be critical.

An interpretation of the term critical habitant was published by the Fish and Wildlife Service and the National Marine Fisheries Service in the Federal Register of April 22, 1975 (40 FR 17764–17765).

It must be emphasized that, because the primary intention of the Fish and Wildlife Service and the National Marine Fisheries Service under the Act is to protect, maintain, and restore presently Endangered and Threatened species, application of the term "critical habitat" may not be restricted to the habitat necessary for a minimum viable population. It is emphasized further that certain actions may not be detrimental to "critical habitat." There may be many kinds of actions which can be carried out within the "critical habitat" of a species that would not be expected to result in such reduction in the numbers or distribution or otherwise adversely affect such species.

The areas delineated below do not necessarily include the entire critical habitat of any of the named species, and modifications to critical habitat descriptions may be proposed in the future.

The act requires inclusion of the "* * * scientific and common name or names of any, * * *" upon the list of those species determined to be Threatened or Endangered. No generally recognized common name exists for some of the taxa herein discussed. In such cases common names have been assigned to the animal. As usage of common names varies considerably, it should be recognized that only the scientific names carry legal significance.

The Service recognizes that invertebrate taxonomy is not an exact science, that the knowledge of such animals continues to develop, and that scientific nomenclature reflects such understanding. It further recognizes that the classification and nomenclatural rank given a taxon is subject to opinion, based on the specialist's knowledge of the animal in question, and his interpretation of the science. Comments and data toward improving the accuracy of common names, as well as scientific names, are requested.

Pursuant to Sections 4(b) and (7) of the Act, the Director will notify the Governors of the States of Alabama, California, District of Columbia, Florida, Georgia, Indiana, Kentucky, New Mexico, North Carolina, Oregon, Tennessee, Virginia, and Washington with respect to this proposal and request their comments and recommendations before making final determinations.

PUBLIC COMMENTS SOLICITED

The Director intends the finally adopted rules to be as accurate and effective in the conservation of any Endangered or Threatened species as possible. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, private interests or any other interested party concerning any aspect of these proposed rules are hereby solicited. Comments particularly are sought concerning:

1. The existence of any living specimen of those species felt possibly to be extinct;
2. Biological or other relevant data concerning any threat (or the lack thereof) to any species included on the following list;
3. The location of and reasons why any habitat of any species named herein should be determined to be "Critical Habitat" as provided for by Section 7 of the Act;
4. Improved scientific or common names for any species on the following list; and
5. Additional information concerning the range and distribution of any of these species.

Final promulgation of the regulations on these species will take into consideration the comments and any additional information received by the Director and such communications may lead him to adopt final regulations that differ from this proposal.

An environmental assessment has been prepared in conjunction with this proposal. It is on file in the Service's Office of Endangered Species, 1612 K Street, N.W., Washington, D.C. 20240 and may be examined during regular business hours. A determination will be made at the time of final rulemaking as to whether this is a major Federal action which would significantly affect the quality of the human environment within the meaning of section 102(2)(c) of the National Environmental Policy Act of 1969.

SUBMITTAL OF WRITTEN COMMENTS

Interested persons may participate in this rulemaking by submitting written comments and other documents, preferably in triplicate, to the Director (FWS/LE), U.S. Fish and Wildlife Service, P.O. Box 19183, Washington, D.C. 20036. All relevant comments and materials received no later than April 12, 1977, will be considered. Comments and materials received will be available for public inspection during normal business hours at the Service's office in Suite 600, 1612 K Street, N.W., Washington, D.C.

This proposed rulemaking is issued under the authority contained in the Endangered Species Act of 1973 (16 U.S.C. 1531–1543; 87 Stat. 884).

Dated: October 13, 1976.

LYNN A. GREENWALT,
Director, Fish and Wildlife Service.

Accordingly, it is hereby proposed to amend Part 17, Subchapter B of Chapter 1, Title 50 of the Code of Federal Regulations, as set forth below:

It is proposed to amend § 17.11 by adding in alphabetical order the following to the lists of snails, crustaceans, and fish:

§ 17.11 Endangered and threatened wildlife.

Species			Range				
Common name	Scientific name	Population	Known distribution	Portion of range where threatened or endangered	Status	When listed	Special rules
*	*	*	*	*			*
SNAILS							
River Snail, Armigerous	*Io armigera armigera*	Not applicable	Kentucky	Entire	E		NA
River Snail, Crass	*Athearnia crassa*	do	Georgia, Tennessee	do	T		NA
River Snail, Rugged	*Io salebrosa*	do	Tennessee	do	E		NA
River Snail, Dutton's	*Io armigera duttoniana*	do	do	do	T		NA
File Snail, Elk River	*Io verrucosa lima*	do	Tennessee, Alabama	do	T		NA
River Snail, Geniculate	*Io geniculata geniculata*	do	Tennessee	do	T		NA
River Snail, Indiana	*Goniobasis semicarinata indianensis*	do	Indiana	do	T		NA
River Snail, Jay's	*Io armigera jayana*	do	Tennessee	do	E		NA
River Snail, Mainstream	*Leptoxis praerosa*	do	do	do	E		NA
River Snail, Small Geniculate	*Io geniculata penguis*	do	do	do	T		NA
River Snail, Spiny	*Io fluvialis*	do	Tennessee, Virginia	do	E		NA
River Snail, Anthony's	*Athearnia anthonyi*	do	Tennessee	do	T		NA
River Snail, Umbilicate	*Leptoxis subglobosa umbilicata*	do	do	do	T		NA
River Snail, Verrucose	*Io verrucosa verrucosa*	do	do	do	E		NA
Snail, California brackish water	*Tryonia imitator*	do	California	do	E		NA
Snail, Cape Mendocino	*Helminthoglypta arrosa mattolensis*	do	do	do	T		NA
Snail, concentrated	*Micrarionta facta*	do	do	do	E		NA
Snail, Florida Tree	*Liguus fasciatus*	Florida Keys from Key West north to Sands Key, Cape Sable.	Florida	do	E		NA
Do	do	Florida other than Key West north to Sands Key or Cape Sable.	do	do	T		NA
Snail, Newcomb's littorine	*Algamorda newcombiana*	Not available	California, Washington, and Oregon	do	T		NA
Snail, Prickly pear	*Micrarionta opuntia*	do	California	do	T		NA
FISH							
Cave Fish, Alabama	*Speoplatyrhinus poulsoni*	do	Alabama	do	T		NA
Chub, Slender	*Hybopsis cahni*	do	Tennessee	do	T		1
Chub, Spotfin	*Hybopsis monacha*	do	Virginia, Tennessee, and North Carolina.	do	T		1
Darter, Slackwater	*Etheostoma boschungi*	do	Alabama, Tennessee	do	T		1
Madtom, Yellowfin	*Noturus flavipinnis*	do	Tennessee, Virginia	do	T		1
CRUSTACEANS							
Crayfish, Big South Fork	*Cambarus bouchardi*	do	Tennessee, Kentucky	do	T		1
Crayfish, Chickamauga	*Cambarus extraneus*	do	Georgia, Tennessee	do	T		1
Crayfish, Conchas	*Orconectes deanae*	do	New Mexico	do	T		2
Crayfish, Louisville	*Orconectes Jeffersoni*	do	Kentucky	do	E		NA
Crayfish, Nashville	*Orconectes shoupi*	do	Tennessee	do	E		NA
Crayfish, Obey	*Cambarus obeyensis*	do	do	do	T		2
Crayfish, Palm Springs cave	*Procambarus acherontis*	do	Florida	do	T		NA
Crayfish, Placid	*Pacifastacus fortis*	do	California	do	T		2
Isopod, Madison Cave	*Antrolana lira*	do	Virginia	do	E		NA
Scud, Florida cave	*Crangonyx grandimanus*	do	Florida	do	T		2
Scud, Hay's Spring	*Stygonectes hayi*	do	District of Columbia	do	E		NA
Shrimp, Alabama cave	*Palaemonias alabamae*	do	Alabama	do	T		2
Shrimp, California freshwater	*Syncaris pacifica*	do	California	do	T		2
Shrimp, Kentucky cave	*Palaemonias ganteri*	do	Kentucky	do	T		2
Shrimp, squirrel Chimney cave	*Palaemonetes commingi*	do	Florida	do	T		NA

NOTES

(1) Prohibitions. All prohibitions listed in sec. 9(a)(1) of the Endangered Species Act of 1973 (16 U.S.C. 1531–1543) shall apply, except that they may be taken in accordance with State law. Any violations of State law will also be a violation of the 1973 Endangered Species Act.

(2) None of the prohibitions of sec. 9 of the act will apply except that no live animal may be taken for the purpose of introducing it outside of its natural range.

It is proposed to amend proposed subpart I of Part 17 (Interagency Cooperation) (proposed at 41 FR 55730, December 22, 1976) by adding the following areas (exclusive of those existing manmade structures or settlements which are not necessary to the survival or recovery of the species) as Critical Habitat:

§ 17.95 Critical Habitat—Fish and Wildlife.

* * * * *

(e) *Fishes*—(1) * * *

(2) *Slender chub*. (i) The following areas are Critical Habitat for the slender chub (*Hybopsis cahni*): Main channel Powell River, Tennessee above Norris Reservoir and upstream to and including Lee County, Virginia; Main channel Clinch River, Tennessee above Norris Reservoir and upstream to and including Russell County, Virginia. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(3) *Spotfin chub*. (i) The following areas are Critical Habitat for the spotfin chub (*Hybopsis monacha*): Main channel North Fork Holston River, Hawkins and Sullivan Counties, Tennessee and Scott and Washington Counties, Virginia; Main channel Emory and Obed Rivers and Clear and Daddy Creeks in Morgan County, Tennessee; Clear Creek in Fentress County, Tennessee; Obed River upstream to U.S. Interstate Highway 40, Clear Creek upstream to U.S. Highway 40 and Daddys Creek upstream to U.S. Highway 127 in Cumberland County, Tennessee; Main channel Little Tennessee River, North Carolina above Fontana Lake in Swane and Macon Counties. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(4) *Slackwater darter*. (i) The following areas are Critical Habitat for the slackwater darter (*Etheostoma boschungi*): all permanent streams, and intermittent streams with flowing water from December thru June, in the following creek and river systems: Flint River and tributaries in Madison County, Alabama and Lincoln County, Tennessee; Cypress Creek and tributaries in Lauderdale County, Alabama and Wayne County, Tennessee; and Buffalo River and tributaries in Lawrence County, Tennessee. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(5) *Yellowfin madtom*. (i) The following areas are Critical Habitat for the yellowfin madtom (*Noturus flavipinnis*): Main channel Copper Creek, Virginia, mouth of Dickinsonville, Russell County; Main channel Powell River, Tennessee above Norris Reservoir to State line; Lee county, Virginia. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(6) *Alabama cave fish*. (i) The following area is Critical Habitat for the Alabama cave fish (*Speoplatyrhinus poulsoni*): Key Cave, Lauderdale County, Alabama. More specific locality data for Federal agencies fulfilling their obligations under Section 7 of the Endangered Species Act of 1973 can be obtained from the Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240. (ii) Pursuant to section of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(f) *Clams*. [Reserved]

(g) *Snails* — (1) *Armigerous River Snail*. (i) The following areas are Critical Habitat for the Armigerous River Snail (*Io armigera armigera*): Main channel, Tennessee River, Livingston, McCracken and Marshall Counties, Kentucky from mouth to Kentucky Dam. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(2) *Rugged River Snail*. (a) The following areas are Critical Habitat for the Rugged River Snail (*Io salebrosa*): Main channel Duck River, Tennessee, Coffee, Bedford, Marshall and Maury Counties. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(3) *Dutton's River Snail*. (i) The following areas are Critical Habitat for the Dutton's River Snail (*Io armigera duttoniana*): Main channel Duck River, Tennessee, mouth to and including Coffee County. (b) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(4) *Elk River File Snail*. (i) The following areas are Critical Habitat for the Elk River File Snail (*Io verrucosa lima*): Main Channel Elk River, Tennessee and Alabama from mouth to Tims Ford Dam. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(5) *Geniculate River Snail*. (i) The following areas are Critical Habitat for the Geniculate River Snail (*Io geniculata geniculata*): Main Channel Duck River, Tennessee, from mouth to and including Coffee County, Buffalo River, Tennessee, from mouth to and including Lewis County. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(6) *Indiana River Snail*. (i) The following areas are Critical Habitat for the Indiana River Snail (*Goniobasis semicarinata indianensis*): Main Channel Blue River, Indiana, Harrison County including Harrison Spring tributary. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(7) *Jay's River Snail*. (i) The following areas are Critical Habitat for the Jay's River Snail (*Io armigera jayana*): Main Channel Duck River, Tennessee, mouth to and including Coffee County. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(8) *Mainstream River Snail*. (i) The following areas are Critical Habitat for the Mainstream River Snail (*Loptoxis praerosa*): Main Channel Nolichucky River, Tennessee, Douglas Lake to Davy Crockett Lake. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitant areas.

(9) *Small Geniculate River Snail*. (i) The following areas are Critical Habitat for the Small Geniculate River Snail (*Io geniculata penguis*): Main Channel Collins River, Tennessee, above Center Hill Reservoir, Warren County, Duck River, Tennessee, Coffee County. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(10) *Spiny River Snail*. (i) The following areas are Critical Habitat for the Spiny River Snail (*Io fluvialis*): Main Channel Powell River, Tennessee and Virginia above Norris Reservoir to Lee-Wise County Line; Main Channel Clinch River, Tennessee and Virginia above Norris Reservoir to Tazewell-Russell County line; Main Channel Nolichucky River, Tennessee from Douglas Lake to Davy Crockett Lake. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(11) *Umilicate River Snail*. (i) The following areas are Critical Habitat for the Umbilicate River Snail (*Leptoxis subglobosa umbilicata*): Main Channel Stones River, East Fork and West Fork only, Rutherford County, Tennessee. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(12) *Verrucose River Snail*. (i) The following areas are Critical Habitat for the Verrucose river snail (*Io verrucosa verrucosa*): Main channel Tennessee River, mouth to Kentucky Dam, Kentucky and Hardin County below Pickwick Lake, Tennessee: Main Channel Nolichucky River, Tennessee between Douglas Lake and Davy Crockett Lake. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

(h) Crustacea—(1) *California freshwater shrimp*. (i) The following areas are Critical Habitat for the California freshwater shrimp (*Syncaris pacifica*): Main channel, Lagunitas Creek, mouth to Kent Lake, Marin County, California; Salmon Creek, mouth to Frestone, Sonoma County, California; East Austin Creek, mouth to Devil Creek, Sonoma County, California. (ii) Pursuant to section 7 of the Act, all Federal agencies must take such action as is necessary to insure that actions authorized, funded, or carried out by them do not result in the destruction or modification of these Critical Habitat areas.

[FR Doc.77-809 Filed 1-11-77;8:45 am]

notices

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

DEPARTMENT OF AGRICULTURE

Farmers Home Administration

[Notice of Designation Number A421]

NEBRASKA

Designation of Emergency Areas

The Secretary of Agriculture has determined that farming, ranching, or aquaculture operations have been substantially affected in the following Nebraska Counties as a result of drought January 1 through December 31, 1976.

Richardson
Saline

Therefore, the Secretary has designated this area as eligible for emergency loans pursuant to the provisions of the Consolidated Farm and Rural Development Act, as amended by Pub. L. 94-68, and the provisions of 7 CFR 1832.3(b) including the recommendation of Governor J. James Exon that such designation be made.

Applications for emergency loans must be received by this Department no later than February 22, 1977, for physical losses and September 22, 1977, for production losses, except that qualified borrowers who receive initial loans pursuant to this designation may be eligible for subsequent loans. The urgency of the need for loans in the designated area makes it impracticable and contrary to the public interest to give advance notice of proposed rulemaking and invite public participation.

Done at Washington, DC, this 3rd day of January 1976.

Frank B. Elliott,
Administrator Farmers Home Administration.

[FR Doc.77-1046 Filed 1-11-77;8:45 am]

[Notice of Designation Number A422]

NORTH CAROLINA

Designation of Emergency Areas

The Secretary of Agriculture has determined that farming, ranching, or aquaculture operations have been substantially affected in the following North Carolina Counties as a result of drought February 1 through August 31, 1976, in Alamance County; drought May 1 through September 30, 1976, in Davidson County; abnormally high temperatures February 11 to February 29, late freeze and frost April 10 and April 13, and drought July 1 to September 15, 1976, in Johnston County; and drought February 26 through October 1, 1976, in Orange County.

Therefore, the Secretary has designated this area as eligible for emergency loans pursuant to the provisions of the Consolidated Farm and Rural Development Act, as amended by Pub. L. 94-68, and the provisions of 7 CFR 1832.3(b) including the recommendation of Governor James E. Holshouser, Jr. that such designation be made.

Applications for emergency loans must be received by this Department no later than February 22, 1977, for physical losses and September 22, 1977, for production losses, except that qualified borrowers who receive initial loans pursuant to this designation may be eligible for subsequent loans. The urgency of the need for loans in the designated area makes it impracticable and contrary to the public interest to give advance notice of proposed rulemaking and invite public participation.

Done at Washington, DC, this 3rd day of January 1977.

Frank B. Elliott,
Administrator, Farmers Home Administration.

[FR Doc.77-1047 Filed 1-11-77;8:45 am]

[Notice of Designation Number A423]

OKLAHOMA

Designation of Emergency Areas

The Secretary of Agriculture has determined that farming, ranching, or aquaculture operations have been substantially affected in Cimarron County, Oklahoma, as a result of a severe hailstorm September 25, 1976.

Therefore, the Secretary has designated this area as eligible for emergency loans pursuant to the provisions of the Consolidated Farm and Rural Development Act, as amended by Pub. L. 94-68, and the provisions of 7 CFR 1832.3(b) including the recommendation of Governor David L. Boren that such designation be made.

Applications for emergency loans must be received by this Department no later than February 22, 1977, for physical losses and September 22, 1977, for production losses, except that qualified borrowers who receive initial loans pursuant to this designation may be eligible for subsequent loans. The urgency of the need for loans in the designated area makes it impracticable and contrary to the public interest to give advaice notice of proposed rule-making and invite pulic participation.

Done at Washington, D.C., this 5th day of January 1977.

Frank B. Elliott,
Administrator, Farmers Home Administration.

[FR Doc.77-1048 Filed 1-11-77;8:45 am]

CIVIL AERONAUTICS BOARD

[Docket 27573; Agreement C.A.B. 26253; Order 76-12-25]

SPECIFIC COMMODITY RATES

Order

Correction

In FR Doc. 76-36337 appearing on page 54208 in the issue for Monday, December 13, 1976, the following corrections should be in the table:

(1) The title should have been "Agreement CAB 26253".

(2) The caption "Rates Added Under Existing Commodity Descriptions" should have appeared between the headings and the first listings.

(3) The caption "Rates Changed Under Existing Commodity Descriptions" should have appeared between the 9th and 10th IATA Commodity Item Numbers.

(4) The caption "Rates Cancelled Under Existing Commodity Descriptions" should have appeared between the 19th and 20th IATA Commodity Item Numbers.

(5) The caption "Rates Extended Under Existing Commodity Descriptions" should have appeared between the 22nd and 23rd IATA Commodity Item Numbers.

COMMISSION ON CIVIL RIGHTS

VIRGINIA ADVISORY COMMITTEE

Agenda and Notice of Open Meeting

Notice is hereby given, pursuant to the provisions of the Rules and Regulations of the U.S. Commission on Civil Rights, that a planning meeting of the Virginia Advisory Committee (SAC) of the Commission will convene at 7:30 PM. and end at 9:00 PM. on January 28, 1977, at the Key Bridge Marriott Motel, Board Room, 1401 Lee Highway, Rosslyn, Virginia.

Persons wishing to attend this open meeting should contact the Committee Chairperson or the Mid-Atlantic Regional Office of the Commission, 2120 L Street, N.W., Room 510, Washington, D.C. 20037.

The purpose of this meeting is to discuss and plan SAC activities for calender year 1977.

This meeting will be conducted pursuant to the provisions of the Rules and Regulations of the Commission.

Dated at Washington, D.C., January 7, 1977.

Isaiah T. Creswell, Jr.,
Advisory Committee Management Officer.

[FR Doc.77-1033 Filed 1-11-77;8:45 am]

CIVIL SERVICE COMMISSION

DEPARTMENT OF TRANSPORTATION

Title Change in Noncareer Executive Assignment

By notice of June 9, 1972, FR Doc. 72-8751 the Civil Service Commission authorized the Department of Transportation to fill by noncareer executive assignment the position of Assistant Director for Program Coordination, Office of Public Affairs. This is notice that the title of this position is now being changed to Assistant Director for Communications Coordination, Office of Public Affairs.

UNITED STATES CIVIL SERVICE
COMMISSION,
JAMES C. SPRY,
Executive Assistant
to the Commissioners.

[FR Doc.77-1037 Filed 1-11-77;8:45 am]

DEPARTMENT OF COMMERCE

Domestic and International Business Administration

HARVARD UNIVERSITY

Decision on Application for Duty-Free Entry of Scientific Article

The following is a decision on an application for duty-free entry of a scientific article pursuant to Section 6(c) of the Educational, Scientific, and Cultural Materials Importation Act of 1966 (Pub. L. 89-651, 80 Stat. 897) and the regulations issued thereunder as amended (15 CFR 301).

A copy of the record pertaining to this decision is available for public review during ordinary business hours of the Department of Commerce, at the Office of Import Programs, Department of Commerce, Washington, D.C. 20230.

Docket Number: 76-00133-33-46040. Applicant: Harvard University, Purchasing Department, 75 Mt. Auburn Street, Cambridge, Mass. 02138. Article: Electron Microscope, Model EM 201C and accessories. Manufacturer: Philips Electronic Instruments NVD, The Netherlands. Intended use of article: The article is intended to be used for a wide variety of studies using ultrastructural tracer techniques, cytochemistry and ranging from morphological studies to freeze fracturing. The phenomena to be investigated include the following:

(a) The study of the structure and function of normal and pathologic vascular endothelium.

(b) The study on the ultrastructural basis for normal and increased glomerular permeability.

(c) Studies on the ultrastructure of endothelial cell and vascular smooth muscle cells in culture.

(d) Studies on the in vitro perfused kidneys under different conditions.

(e) Analysis of replicas of freeze fractured specimens from cell membranes in normal and under pathological conditions.

(f) Studies of the juxtaglomerular apparatus of in vivo and in vitro perfused kidneys under different conditions with the application of electron microscopic tracers.

(g) Studies of regenerating endothelial cells and endothelial inflammatory cell interactions in models of immunological and nonimmunologic inflammation.

(h) Studies of endothelial ultrastructure after irradiation in vivo and in vitro.

(i) Ultrastructural studies on the relationship between microvascular and parenchymal injury following irradiation of the parotid salivary gland.

In addition, the article will be used in the training of graduate students, postdoctoral fellows, and research associates on their research programs.

Comments: No comments have been received with respect to this application.

Decision: Application denied. An instrument or apparatus of equivalent scientific value to the foreign article, for such purposes as this article is intended to be used, was being manufactured in the United States at the time the foreign article was ordered (October 16, 1974).

Reasons: This application is a resubmission of Docket Number 75-00173-33-46040 which was denied without prejudice to resubmission on March 13, 1975 for informational deficiencies. The applicant in reply to Questions 7 and 8 alleges the foreign article provides the following pertinent features:

(1) About 4 Angstroms (Å) resolution point to point (point) with consistently achievable high resolution up to 3.5Å.

(2) Solid-State electronics and consequent requirement for a smaller total floor space of 3 x 4 feet.

(3) High degree of dependability, ease of operation, low down time, ease of alignment and when aligned remains stable for months.

(4) Designed for simple and convenient use: operation by a skilled and experienced operator not required; not easy for an inexperienced operator to damage the article.

(5) Highly reliability with little repair time or downtime.

(6) Repair service is excellent.

(7) Eucentric goniometer stage with 60 degree tilt to be acquired. The domestic instrument most closely comparable to the foreign article is the Model EMU-4C electron microscope manufactured by the Adam David Company. The Department of Health, Education, and Welfare (HEW) advises in its memorandum dated January 16, 1976, that this application be denied because the applicant provides no pertinent specification within the meaning of Subsection 301.2(n) of the regulations upon which duty-free entry could be based. In this connection, HEW advises that the use is in research and teaching at a sophisticated level, not in a tightly scheduled production process; therefore, constant availability, degree to which performance can be sustained, solid state electronic design, simplicity, workability, operator skill, downtime estimates, floor space requirements, wisdom of purchase decision, etc. are irrelevant or not scientifically pertinent. As to the specific allegations of the applicant in reply to Questions 7 and 8, in the order listed above, the following is noted:

(1) According to Subsection 301.11(a) of the regulations, the determination of scientific equivalency shall be based on a comparison of the guaranteed specifications of the article and the most closely comparable domestic instrument. The Model EMU-4C provides a guaranteed resolution of 5 Å point and the article provides a guaranteed resolution of 4 Å point. HEW notes that the need for high resolution is claimed but that the model ordered has a lower resolution guarantee than other models in the foreign manufacturer's line. Moreover, HEW advises that the difference in resolution guarantees of the article and the EMU-4C do not have scientific significance for the applicant's work. In connection with the claim that consistently high resolution is needed, we note HEW's advice that the applicant's uses are not in a tightly scheduled production process, therefore, constant availability and the degree to which performance can be sustained are irrelevant or not scientifically pertinent.

(2) HEW advises that solid state electronics which reduce floor space requirements for the article is not pertinent.

(3) HEW's advises that constant availability, degree to which performance can be sustained, simplicity [related to ease of operation and alignment] workability, operator skill down time estimates, etc., are irrelevant or not scientifically pertinent to the work. In view of this advice we find the items comprising feature (3) to be non-pertinent matters of cost or convenience.

(4) We find that these factors are either conveniences or matters of cost based on HEW's advice that simplicity, workability, operator skill, down-time estimates, etc. are not pertinent.

(5) HEW advises that constant availability, the degree to which performance can be sustained and down-time estimates are not pertinent. We, therefore, conclude that the factors cited in feature (5) are non-pertinent matters of cost and convenience. Further, we find that reliability which is associated with the level of maintenance and hence, cost of ownership, is not a pertinent specification within the meaning of Subsection 301.2(n) of the regulations.

In general information which can lead to a direct quantitative comparison of the reliability (i.e., ability to conform to specifications without excessive breakdown) of two instruments is almost never available. When a specification is "guaranteed" that manufacturer is stating, in effect that the necessary steps have been taken to verify ability to meet this obligation. Thus a guaranteed specification presupposes a determination of reliability to some "engineered-in" degree. Customarily, manufacturers neither issue quantitative specifications on reliability nor guarantee reliability. Moreover, the reliability of a single instrument can, and frequently does, improve abruptly with time (for example, as the manufacturer gains experience and makes minor modifications dictated by such experience). No two instruments of the same model supplied by the same manufacturer will have identical records insofar as reliability is concerned and a documented history of poor reliability does not mean that such performance will not vastly improve with the very next instrument (and subsequent instruments) produced. Without strong and substantive supporting evidence in the record that the reliability of two instruments were measurably different and the difference in reliability precluded performance of the work intended, reliability could not be considered a justifiable basis for duty-free entry under Pub. L. 89-651. While reputations with respect to reliability which are derived from subjective, word-of-mouth allegations or even personal experience may, reasonably or otherwise, enter into a person's decision to buy a particular instrument, such a yardstick could not serve as a clear-cut, objective basis for duty-free entry.

Moreover, we would reemphasize that reliability is considered a cost-related consideration for duty-free entry purposes which by regulation and Congressional intent is not a sufficient basis for granting of duty-free entry.

(6) Service for the EMU-4C is available from the RCA Service Company. Moreover, service is a cost-related matter which is not pertinent.

(7) A eucentric goniometer was not ordered with the foreign article. Subsections 301.2(c) (d) and (e), and 301.6 (a)(3) prohibit consideration of unordered accessories in the Department's determination of scientific equivalency. Therefore, the goniometer stage is not a factor in this decision.

For the foregoing reasons, we find that the Model EMU-4C electron microscope is of equivalent scientific value to the foreign article for such purposes as this article is intended to be used.

(Catalog of Federal Domestic Assistance Program No. 11.105, Importation of Duty-Free Educational and Scientific Materials.)

RICHARD M. SEPPA,
Director,
Special Import Programs Division.

[FR Doc. 77-1056 Filed 1-11-77;8:45 am]

LOUISIANA STATE UNIVERSITY MEDICAL CENTER

Decision On Application for Duty-Free Entry of Scientific Article

The following is a decision on an application for duty free entry of a scientific article pursuant to Section 6(c) of the Educational, Scientific, and Cultural Materials Importation Act of 1966 (Pub. L. 89-651, 80 Stat. 897) and the regulations issued thereunder as amended (15 CFR Part 301).

A copy of the record pertaining to this decision is available for public review during ordinary business hours of the Department of Commerce, at the Office of Import Programs, Department of Commerce, Washington, D.C. 20230.

Docket Number: 77-00007. Applicant: Louisiana State University Medical Center, Kresge Hearing Research Laboratory, L.S.U. School of Medicine, 1100 Florida Ave., Bldg., 164, New Orleans, LA 70119. Article: OVE IIId Speech Synthesizer, Type 21002. Manufacturer: A. B. Fonema, Sweden. Intended use of article: The article is intended to be used for the investigation of the nature of speech perception processes with work centered around the use of monotic and dichotic listening techniques, and the investigation of the effects that the variation of several task, listener, and stimulus parameters have on the identification of dichotic and monotic signals.

Comments: No comments have been received with respect to this application. Decision: Application approved. No instrument or apparatus of equivalent scientific value to the foreign article, for such purposes as this article is intended to be used, is being manufactured in the United States. Reasons: This application is a resubmission of Docket Number 76-00264 which was denied without prejudice to resubmission on June 11, 1976 for informational deficiencies. The foreign article provides the specification of electronic simulation of the general vocal tract behavior. The most closely comparable domestic instrument is the model VS6.0 manufactured by Vocal Interface Division of Federal Crew Works. This domestic instrument is capable of simulating the frequency characteristics and producing understandable phoneme sequences within a limited acoustic microstructure. The National Bureau of Standards (NBS) advises in its memorandum dated December 14, 1976 that (1) the specification of the article described above is pertinent to the applicant's intended research and (2) the domestic instrument does not have the range or capability to simulate the general vocal tract behavior required by the applicant's research purposes and, therefore, does not provide the pertinent specification.

For these reasons, we find the Model VS6.0 is not of equivalent scientific value to the foreign article for the applicant's intended use.

The Department of Commerce knows of no other instrument or apparatus of equivalent scientific value to the foreign article, for such purposes as this article is intended to be used, which is being manufactured in the United States.

(Catalog of Federal Domestic Assistance Program No. 11.105, Importation of Duty-Free Educational and Scientific Materials.)

RICHARD M. SEPPA,
Director,
Special Import Programs Division.

[FR Doc.77-1057 Filed 1-11-77;8:45 am]

UNIVERSITY OF NOTRE DAME du LAC

Decision on Application for Duty-Free Entry of Scientific Article

The following is a decision on an application for duty-free entry of a scientific article pursuant to Section 6(c) of the Educational, Scientific, and Cultural Materials Importation Act of 1966 (Pub. L. 89-651, 80 Stat. 897) and the regulations issued thereunder as amended (15 CFR 301).

A copy of the record pertaining to this decision is available for public review during ordinary business hours of the Department of Commerce, at the Office of Import Programs, Department of Commerce, Washington, D.C. 20230.

Docket Number: 76-00439. Applicant: University of Notre Dame du Lac, Notre Dame, IN 46556. Article: Electron Microscope, Model JEM 100C/SEG/BSR with eucentric goniometer stage and accessories. Manufacturer: JOEL Ltd., Japan. Intended use of article: The article is intended to be used for the study of crystalline and non-crystalline solids inincluding metal alloys, minerals and ceramics and polymers. Experiments to be conducted will include characterization of phase distributions and various planar and other defect structures which influence mechanical, electrical and magnetic properties; elevated temperature observation of phase transformations and other microstructural changes. The article will also be used for educational purposes in the course, MET 602. Electron Microscopy and Diffraction to familiarize students with techniques of use and for interpretation in electron microscopy and the range of applications for transmission electron microscopy and electron diffraction.

Comments: No comments have been received with respect to this application. Decision: Application approved. No instrument or apparatus of equivalent scientific value to the foreign article, for such purposes as this article is intended to be used, was being manufactured in the United States at the time the foreign article was ordered (March 15, 1976). Reasons: The foreign article has a specified resolving power of 3 Angstroms (A) and is equipped with a eucentric side entry goniometer stage which has ±60° tilt with a guranateed lattice resolution of 2 A as well as a high resolution scanning attachment which provides 30 A guaranteed in the scanning mode and 15 A guaranteed in the scanning transmission mode. The National Bureau of Standards (NBS) advises in its memorandum dated December 1, 1976 that (1) the specifications described above are pertinent to the applicant's intended use and (2) it knows of no domestic instrument or apparatus of equivalent scientific value to the foreign article for the applicant's intended use.

The Department of Commerce knows of no other instrument or apparatus of equivalent scientific value to the foreign article, for such purposes as this article is intended to be used, which was being manufactured in the United States at the time the foreign article was ordered.

(Catalog of Federal Domestic Assistance Program No. 11.105, Importation of Duty-Free Educational and Scientific Materials.)

RICHARD M. SEPPA,
Director,
Special Import Programs Division.

[FR Doc.77-1058 Filed 1-11-77;8:45 am]

DUKE UNIVERSITY

Decision on Application for Duty-Free Entry of Scientific Article

The following is a decision on an application for duty-free entry of a scientific article pursuant to Section 6(c) of the Educational, Scientific, and Cultural Materials Importation Act of 1966 (Pub. L. 89-651, 80 Stat. 897) and the regulations issued thereunder as amended (15 CFR 301).

A copy of the record pertaining to this decision is available for public review during ordinary business hours of the Department of Commerce, at the Office of Import Programs, Department of Commerce, Washington, D.C. 20230.

Document Number: 76-00514. Applicant: Duke University, Department of Chemistry, Durham, North Carolina 27706. Article: Fourier Transformation Nuclear Magnetic Resonance Spectrometer System, Model JNM/FX-60. Manufacturer: JEOL Ltd., Japan. Intended use of article: The article is intended to be used for a broad range of research programs which involve the acquisition of nmr spectra of hydrogen, carbon-13, fluorine and phosphorus nuclei. The materials derived for this study will originate from research programs being conducted in the areas of inorganic, organic physical, analytical and biological chemistry. These research projects will include the following:

(a) Structural Studies of Alkaloids.

(b) Conformational Characteristics of Cyclic Nitrogen and Oxygen Heterocycles.

(c) Biosyntheses of Plant and Fungal Metabolites Using ^{13}C-enriched Precursors.

(d) Synthesis and Stereochemistry of Cyclohexylfluorophosphoranes.

(e) Synthesis and Stereochemistry of Silylaminoboranes.

(f) Nuclear Relaxation Studies of Substrate Binding to Cobalt (II) Metalloenzymes.

(g) Development of a-Formyl Ketone Photochemical Annelation. Techniques in Natural Product Synthesis.

(h) Total Synthesis of Tetracyclic Sesquiterpenes.

(i) Total Synthesis of the Alkaloids Derived from *Gelsemien* Species.

(j) Low-temperature ^{13}C-Spectra of Organo-Zinc Compounds.

(k) Correlation of ^{13}C Chemical Shifts with Reaction Rates.

(l) Synthesis and Characterization of Cyano Cobaloximes and Cyanobridged Dicobaloximes.

(m) Structure and Isomerism in Phosphine Complexes of Nickel (II).

(n) Conformational Analysis of Crown Ethers and Their Complexes with Representative and Transition Metal Ions.

(o) Synthesis and Stereochemistry of 14- and 17-Phosphasteroids.

(p) Synthesis and Stereochemistry of 7-10 Membered Rings Containing Phosphorous.

(q) Synthesis of Phospholonaphthalenes, Phospholophenathrenes, Phospholoquinolines, and Selected Heterocyclic Systems.

(r) Phospholane Derivatives with Epoxy and Aziridino Groups for Anticancer Testing.

(s) New Method for Constructing Multicyclic Phosphorous Compounds From 3-Monoalkylamino-2-phospholene Sulfides.

(t) Experimental and Theoretical Investigations of ^{31}P NMR Phenomea.

(u) McCormack Cycloadditions to Variously Substituted 1-Vinyl-cycloalkenes; Effects of Ring-biasing on the Stereochemistry of the Cycloaddition.

(v) Synthesis of Pyrethroids for Agricultural Purposes.

(w) ^{13}C and ^{1}H CIDNP Studies from Radical Pair Reactions.

(x) ^{13}C Studies of Cyclic Peroxides and Hydroperoxides Related to Prostaglandin Endoperoxides.

(y) ^{13}C Studies of Hydrocarbons Formed From Radical Cyclizations.

(z) ^{13}C Studies of Oxidized Phospholipids and Steroids.

The article will also be used for educational purposes in the following courses: (a) Spectral and Structural Study of Organic Compounds—to teach the practical application of various techniques in elucidating molecular structure and (b) Independent Study in Chemistry—to introduce undergraduate students to independent research in chemistry.

Comments: No comments have been received with respect to this application. Decision: Application approved. No instrument or apparatus of equivalent scientific value to the foreign article, for such purposes as this article is intended to be used, is being manufactured in the United States. Reasons: The foreign article provides a dual frequency (for carbon-13 and proton) variable temperature, 10 millimeter sample probe. The National Bureau of Standards advises in its memorandum dated December 10, 1976 that (1) the specification described above is pertinent to the applicant's intended use and (2) it knows of no domestic instrument or apparatus of equivalent scientific value to the foreign article for the applicant's intended use.

(Catalog of Federal Domestic Assistance Program No. 111105, Importation of Duty-Free Educational and Scientific Materials.)

RICHARD M. SEPPA,
Director,
Special Import Programs Division.

[FR Doc.77-1059 Filed 1-11-77;8:45 am]

Economic Development Administration

BOONTON HANDBAG CO.

Petition for Determination of Eligibility To Apply for Trade Adjustment Assistance

A petition by Boonton Handbag Company, 76 Monroe Street, Boonton, New Jersey 17005, a producer of handbags and purses, was accepted for filing on January 4, 1977, pursuant to Section 251 of the Trade Act of 1974 (Pub. L. 93-618) and § 315.23 of the Adjustment Assistance Regulations for Firms and Communities (13 CFR Part 315).

Consequently, the United States Department of Commerce has initiated an investigation to determine whether increased imports into the United States of atricles like or directly competitive with those produced by the firm contributed importantly to total or partial separation of the firm's workers, or threat thereof, and to a decrease in sales or production of the petitioning firm.

Any party having a substantial interest in the proceedings may request a public hearing on the matter. A request for a hearing must be received by the Chief, Trade Act Certification Division, Economic Development Administration, U.S. Department of Commerce, Washington, D.C. 20230, no later than the close of business of the tenth calendar day following the publication of this notice.

JACK W. OSBURN, JR.,
Chief, Trade Act Certification
Division, Office of Planning
and Program Support.

[FR Doc.77-1060 Filed 1-11-77;8:45 am]

Maritime Administration

[Docket No. S-533]

ALBATROSS TANKER CORP.

Application

Notice is hereby given that Albatross Tanker Corporation (Albatross) has applied for written permission under section 805(a) of the Merchant Marine Act, 1936, as amended, in connection with its application for operating-differential subsidy with respect to bulk cargo carrying service in the U.S. foreign trade, principally between the United States and the Union of Soviet Socialist Republics, to expire unless extended, on December 31, 1977, or upon completion of a voyage then in progress.

Albatross requests written permission pursuant to section 805(a) for (1) Seatrain Lines, Inc. and affiliated companies, including Albatross, to continue to operate the following vessels in the domestic trade, as well as the right to move these vessels from one domestic trade to another, and/or from a foreign trade(s) to a domestic trade(s):

Vessel	*Status*
Transcolorado	Owned.
Transcolumbia	Do.
Erna Elizabeth	Do.
Transeastern	Do.
Transindiana	Do.
Brooklyn	Chartered.
Williamsburg	Do.
Manhattan	Owned.

and (2), Hudson Waterways, parent of Albatross, to operate the tankers *American Explorer, Maumee, Potomac, Shoshone,* and *Yukon* in domestic service for the Military Sealift Command, as well as the right to move these vessels from one domestic trade to another and/or from foreign trade(s) to domestic trade(s) should the need arise and as directed by the Military Sealift Command. Such written permission is required notwithstanding the fact that a voyage in the proposed service for which subsidy is sought would not be eligible for subsidy if the vessel engages in the domestic commerce of the United States on that voyage.

Any person, firm, or corporation having any interest (within the meaning of section 805(a)) in any application and desiring to be heard on issues pertinent to section 805(a) and desiring to submit comments or views concerning the application must, by close of business on January 14, 1977 file same with the Secretary, Maritime Administration/Maritime Subsidy Board, in writing, in triplicate, together with petition for leave to intervene which shall state clearly and concisely the grounds of interest, and the alleged facts relied on for relief.

If no petitions for leave to intervene are received within the specified time or if it is determined that petitions filed do not demonstrate sufficient interest to warrant a hearing, the Maritime Administration will take such action as may be deemed appropriate.

In the event petitions regarding the relevant section 805(a) issues are received from parties with standing to be heard, a hearing will be held, the purpose of which will be to receive evidence under section 805(a) relative to whether the proposed operations (a) could result in unfair competition to any person, firm, or corporation operating exclusively in the coastwise or intercoastal service, or (b) would be prejudicial to the objects and policy of the Act relative to domestic trade operations.

(Catalog of Federal Domestic Assistance Program No. 11.504 Operating-Differential Subsidies (ODS))

By Order of the Maritime Subsidy Board.

Dated: January 6, 1977.

JAMES S. DAWSON, Jr.,
Secretary.

[FR Doc.77-1094 Filed 1-11-77;8:45 am]

National Oceanic and Atmospheric Administration

DR. ROGER S. PAYNE

Receipt of Application for Scientific Research and Scientific Purposes

Notice is hereby given that the following Applicant has applied for Permits to take marine mammals for the purpose of scientific research under the Marine Mammal Protection Act of 1972 (16 U.S.C. 1361-1407), and for scientific purposes under the Endangered Species Act of 1973 (16 U.S.C. 1431-1543).

Dr. Roger S. Payne, Weston Road, Lincoln, Massachusetts 01773, to conduct scientific research with humpback whales (*Megaptera novaeangliae*).

The humpback whale is listed as an endangered species under the Endangered Species Act of 1973.

The proposed research will be conducted in water around the Hawaiian Islands, in the Caribbean and waters around Bermuda, in waters off the Atlantic coast of the northeast United States and the Maritime Provinces of Canada, and in waters around Southeastern Alaska. The research will involve observations from various surface vessel and aerial platforms, hydrophone recordings, and underwater and above water filming. These activities may invilve harrasment of individual cetaceans within the population stocks. No animals will be captured.

The proposed research is intended to investigate the correlation between behavior and sounds made by humpback whales, and to study annual changes in the patterns of humpback whale sounds. Additionally, the distribution and migration of humpback whales will be studied by photographing the pigmentation patterns of the tail flukes of individual whales.

The application for the Marine Mammal Protection Act Permit will be considered under the Regulations Governing the Taking and Importing of Marine Mammals. The application for the Endangered Species Act Permit will be considered under the Regulations Governing Endangered Fish and Wildlife Permits.

Documents submitted in connection with these applications are available in the following offices:

Director, National Marine Fisheries Service, Department of Commerce, 3300 Whitehaven Street, N.W., Washington, D.C.;
Regional Director, National Marine Fisheries Service, Southwest Region, 300 South Ferry Street, Terminal Island, California 90731;
Regional Director, National Marine Fisheries Service, Southeast Region, Duval Building, 9450 Gandy Boulevard, St. Petersburg, Florida 33702; and
Regional Director, National Marine Fisheries Service, Northeast Region, Federal Building, 14 Elm Street, Gloucester, Massachusetts 01930.

Concurrent with the publication of this notice in the FEDERAL REGISTER, the Secretary of Commerce is sending copies of the application for the Marine Mammal Protection Act Permit to the Marine Mammal Commission and the Committee of Scientific Advisors.

Written data or views, or requests for a public hearing on this application should be submitted to the Director, National Marine Fisheries Service, Washington, D.C. 20235, on or before February 11, 1977. Those individuals requesting a hearing should set forth the specific reasons why a hearing on this particular application would be appropriate. The holding of such a hearing is at the discretion of the Director.

All statements and opinions contained in this notice in support of this application are summaries of those of the Applicant and do not necessarily reflect the views of the National Marine Fisheries Service.

ROBERT J. AYERS,
Acting Assistant Director for Fisheries Management, National Marine Fisheries Service.

JANUARY 6, 1977.

[FR Doc.77-1034 Filed 1-11-77;8:45 am]

FISHERMAN'S MARKETING ASSOCIATION OF WASHINGTON

Receipt of Application for a General Permit

Notice is hereby given that the following application has been received for a general permit to allow the taking of marine mammals incidental to the course of commercial fishing operations, as authorized by the Marine Mammal Protection Act of 1972 (16 U.S.C. 1361-1407), and the regulations thereunder.

The Fisherman's Marketing Association of Washington, 4215 21st Avenue West, Seattle, Washington 98199, has applied for a general permit, category 1, "Towed or Dragged Gear," to be effective January 31, 1977.

The Applicant is the holder of a general permit issued in 1976, which expired on December 31, 1976.

Copies of the application are available for review in the following offices:

Director, National Marine Fisheries Service, Department of Commerce, 3300 Whitehaven Street, N.W., Washington, D.C.; and
Regional Director, National Marine Fisheries Service, Northwest Region, 1700 Westlake Avenue North, Seattle, Washington 98109.

Interested parties may submit written views on this application on or before February 11, 1977, to the Director, National Marine Fisheries Service, Department of Commerce, Washington, D.C. 20235.

Dated: January 5, 1977.

ROBERT J. AYERS,
Acting Assistant Director for Fisheries Management, National Marine Fisheries Service.

[FR Doc.77-1090 Filed 1-11-77;8:45 am]

OFFICE OF PARKS AND RECREATION, OAKLAND, CALIF.

Receipt of Application for Public Display Permit

Notice is hereby given that the following Applicant has applied in due form for a permit to take marine mammals for public display as authorized by the Marine Mammal Protection Act of 1972 (16 U.S.C. 1361-1407), and the Regulations Governing the Taking and Importing of Marine Mammals (50 CFR Part 216).

The Office of Parks and Recreation, Lake Merritt, 1520 Lakeside Drive, Oakland, California 94612, to take three (3) California sea lions, (*Zalophus californianus*) for public display.

The requested animals will be captured by a professional collector on or near Santa Cruz or San Miguel Islands off Santa Barbara, California, with a hoop net on land or with a modified gill net in the water.

The animals will be acclimated at the collector's facility then shipped to the Oakland facility by commercial aircraft and truck.

The animals will be displayed at the Children's Fairyland facility, a unit within the Visitor Services Department of the Office of Parks and Recreation. At the facility the animals will be maintained in a pool 40 feet by 20 feet by 8 feet deep with an island 10 feet by 20 feet in the center.

The sea lions are desired to provide recreational and educational benefits to the 160,000 visitors that visit the facility annually. The facility is a non-profit organization. The zoo director has worked with various classes of marine mammals over thirty years, with the staff members having an average of eight years experience.

The arrangements and facilities for transporting and maintaining the marine mammals requested in the above described application have been inspected by a licensed veterinarian, who has certified that such arrangements and facilities are adequate to provide for the well-being of the marine mammals involved.

Documents submitted in connection with the above application are available for review in the following offices:

Director, National Marine Fisheries Service, 3300 Whitehaven Street NW., Washington, D.C.; and

Regional Director, National Marine Fisheries Service, Southwest Region, 300 South Ferry Street, Terminal Island, California 90731.

Concurrent with the publication of this notice in the FEDERAL REGISTER, the Secretary of Commerce is forwarding copies of this application to the Marine Mammal Commission and the Committee of Scientific Advisors.

Written data or views, or requests for a public hearing on this application should be submitted to the Director, National Marine Fisheries Service, Department of Commerce, Washington, D.C. 20235, on or before February 11, 1977. Those individuals requesting a hearing should set forth the specific reasons why a hearing on this particular application would be appropriate. The holding of such hearing is at the discretion of the Director.

All statements and opinions contained in this notice in support of this application are summaries of those of the Applicant and do not necessarily reflect the views of the National Marine Fisheries Service.

Dated: January 5, 1977.

ROBERT J. AYERS,
Acting Assistant Director for Fisheries Management, National Marine Fisheries Service.

[FR Doc.77-1091 Filed 1-11-77;8:45 am]

Office of the Secretary

PRIVACY ACT OF 1974

Adoption of Additional Systems of Records, Adoption of New Routine Use for Existing System of Records, and Proposal for New Routine Use

The purpose of this notice is (1) to adopt five additional systems of records and a new routine use for an existing system of records and (2) to propose a new routine use for three existing systems of records.

1. On September 13, 1976, the Department of Commerce gave notice (41 FR 38950-53) that it proposed to adopt the following five additional systems of records:

COMMERCE/DEPT.-19, Department Mailing Lists,
COMMERCE/NFPCA-1, Federal Employees with Fire-Related Expertise,
COMMERCE/NOAA-17, NOAA Diving Program File
COMMERCE/NOAA-18, NOAA Mailing Lists, and
COMMERCE/NTIS-2, Employee Daily Time and Productivity Records.

New System Reports for Dept.-19, NFPCA-1, NOAA-17, and NOAA-18 dated September 9, 1976, and a New System Report for NTIS-2 dated August 11, 1976, were submitted to the Congress, the Office of Management and Budget, and the Privacy Protection Study Commission.

Also on September 13, 1976, the Department of Commerce gave notice (41 FR 38953) that it proposed to add a new routine use for an existing Patent and Trademark Office System of Records, COMMERCE/PAT-TM-6, Parties Involved in Patent Interference Proceedings, to permit disclosure of settlement agreements to other Government agencies.

Interested persons were invited to submit written data, views, or arguments on or before October 13, 1976; no comments were received on these proposals.

Therefore, the Department hereby adopts these 5 additional systems of records and the new routine use. Inasmuch as the texts of the additional systems and the routine uses for the PAT-TM-6 system were published in their entirety on September 13, 1976, as described above, and they are adopted without change, there is no need to republish at this time.

2. The Department of Commerce hereby gives notice, in accordance with 5 U.S.C. 552a(e)(4) and (11) (the Privacy Act of 1974, Section 3, Public Law 93-579, 88 Stat. 1897), that it proposes to add a routine use to each of three existing systems of records: COMMERCE/DEPT.-12, Investigative Records—Contract and Grant Frauds and Employee Criminal Misconduct; COMMERCE/DEPT.-13, Investigative Records—Persons Within the Investigative Jurisdiction of the Department; and COMMERCE/DEPT.-18, Employee Personnel Files Not Covered by U.S. Civil Service Commission.

The proposed routine use for each system has the same purpose, but slightly different language to reflect different categories of individuals covered by each system.

The purpose of the proposed routine use is twofold: (1) To permit disclosure of personal information about an individual to a non-governmental third party being interviewed about that individual to obtain needed information about the individual. For example, an investigator may disclose to an interviewee information about the subject individual which would enable the interviewee to recognize his/her association with that individual. The information to be disclosed would be minimal, because an interviewee who could not readily recognize the association could not provide substantive information about the subject individual. The proposed new routine use would permit such disclosures, although they occur infrequently without the consent of the individual concerned. Such disclosures to governmental entities are covered by routine use No. 2 of the Department's Prefatory Statement of General Routine Uses (41 FR 38953, September 13, 1976); and (2) to more precisely describe all disclosures of personal information about public advisory committee nominees, members, and former members.

The proposed new routine use, which is compatible with the purpose for which each system is maintained, is as follows for the three systems:

COMMERCE/DEPT.-12: Information concerning (1) past and present employees, when under or having been under investigation for suspected violation of criminal laws; (2) employees and principal officers of contractors used by the Department; and (3) principal officers and employees of organizations, firms, or institutions which are recipients or beneficiaries of grants, loans, guarantee, or other assistance programs of the Department; —may be disclosed to a private organization or individual as necessary to obtain information in connection with a decision concerning the assignment, hiring, or retention of an individual, the issuance of a security clearance, the letting of a contract, or the issuance of a license, grant or other benefit.

COMMERCE/DEPT.-13: Information concerning nominees, members and former members of public advisory committees may be disclosed: (a) to OMB in connection with its committee management responsibilities; (b) to other Federal agencies which have joint responsibility for advisory committees or which receive or utilize advice of the committees; and (c) to a Federal, state or local agency, private organization or individual as necessary to obtain information in connection with a decision concerning appointment or reappointment of an individual to committee membership.

Information concerning (1) nominees, members, and former members of trade missions and export councils; (2) current employees, former employees, and prospective employees; (3) research associates; (4) guest workers; (5) employees of contractors used, or which may be used by the Department on national security classified projects; (6) principal officers of some contractors used, or which may be used, by the Department; and (7) principal officers and some employees of organizations, firms, or institutions which are recipients or beneficiaries, or prospective recipients or beneficiaries, of grants, loans, guarantee, or other assistance programs of the Department—may be disclosed to a private organization or individual as necessary to obtain information in connection with a decision concerning the assignment, hiring, or retention of an individual, the issuance of a security clearance, the letting of a contract, or the issuance of a license, grant or other benefit.

COMMERCE/DEPT.-18: Information concerning current or former employees may be disclosed to a private organization or individual as necessary to obtain information in connection with a decision concerning the assignment, hiring, or retention of a security clearance, the letting of a contract, or the issuance of a license, grant or other benefit.

Any interested person may submit written data, views or arguments to the Assistant Secretary for Administration (Attn: Information Management Division, Room 5026), U.S. Department of Commerce, 14th & E Streets, N.W., Washington, D.C. 20230, any time on or before February 11, 1977. The comments received will be available, as received, for public inspection at the above address between the hours of 9:00 a.m. and 4:00 p.m. Monday through Friday (except holidays).

For the benefit of the public, attached hereto are the complete texts of the three systems of records, including the proposed new routine use in each instance.

Effective date: the proposed new routine use will be effective February 11, 1977, unless the Department notices otherwise.

Dated: December 29, 1976.

JOSEPH E. KASPUTYS,
Assistant Secretary for Administration.

COMMERCE/DEPT.-12

System name:

Investigative Records-Contract and Grant Frauds and Employee Criminal Misconduct COMMERCE/DEPT-12.

System location:

a. For records of EDA: Investigation and Inspection Staff, EDA, U.S. Department of Commerce, 14th and Constitution Avenue, N.W., Washington, D.C. 20230.

b. For all other records: Departmental Office of Investigations and Security, OS, Main Commerce Building, Washington, D.C. 20230.

Categories of individuals covered by the system:

Past and present employees, when under or having been under investigation for suspected violation of criminal laws; employees and principal officers of contractors used by the Department; and principal officers and employees of organizations, firms, or institutions which are recipients or beneficiaries of grants, loans, or loan guarantee programs of the Department.

Categories of records in the system:

Name; address; date and place of birth; citizenship; physical characteristics; employment and military service history; credit references and credit records; education; medical history; arrest records; Federal employee's relatives; dates and purpose of visits to foreign countries; passport numbers; names of spouses, relatives, references, and personal associates; activities; and conflict of interest, security, and suitability for employment.

Authority for maintenance of the system:

Executive Orders 10450 and 11652; Title 18 U.S.C., including sections 201, 209, 287, 508, 602, 641, 643, 653, 654, 1001, 1719, 1913, 2071, and 2073; 5 U.S.C. 301; 15 U.S.C. 1512; 28 U.S.C. 533–535; and 44 U.S.C. 3101.

Routine use of records maintained in the system, including categories of users and the purpose of such uses:

Information concerning (1) past and present employees, when under or having been under investigation for suspected violation of criminal laws; (2) employees and principal officers of contractors used by the Department; and (3) principal officers and employees of organizations, firms, or institutions which are recipients or beneficiaries of grants, loans, guarantee, or other assistance programs of the Department—may be disclosed to a private organization or individual as necessary to obtain information in connection with a decision concerning the assignment, hiring, or retention of an individual, the issuance of a security clearance, the letting of a contract, or the issuance of a license, grant or other benefit. See routine use paragraphs in Prefatory Statement.

Policies and practices for storing retrieving, accessing, retaining, and disposing of records in the system:

Storage:

Paper records in file folders.

Retrievability:

For records at location a: Indices are alphabetical, record folders are filed alphabetically by principal subject;

For records at location b: Indices are alphabetical, record folders are filed by number.

Safeguards:

Locked cabinets in secured rooms or in guarded building, and used only by authorized screened personnel.

Retention and disposal:

When cases are closed records are disposed of in accordance with the unit's Records Control Schedule.

System manager(s) and address:

For records at location a., Director, Investigation and Inspection Staff, EDA, U.S. Department of Commerce, Washington, D.C. 20230.

For records at location b., Director, Office of Investigations and Security, OS, Main Commerce Building, Washington, D.C. 20230.

Notification procedure:

Information may be obtained from: Director, Office of Organization and Management Systems, U.S. Department of Commerce, Washington, D.C. 20230. Requester should provide name and association with the Department, pursuant to the inquiry provisions of the Department's rules which appear in 15 CFR Part 4b.

Record access procedures:

Requests from individuals should be addressed to: same address as stated in the notification section above.

Contesting record procedures:

The Department's rules for access, for contesting contents, and appealing initial determinations by the individual concerned appear in 15 CFR Part 4b. Use above address.

Record source categories:

Subject individuals; CSC, FBI and other Federal, state, and local agencies; individuals and organizations that have pertinent knowledge about the subject; and, those authorized by the individual to furnish information.

Systems exempted from certain provisions of the act:

Pursuant to 5 U.S.C. 552a(j)(2), all information about an individual in the record which meets the criteria stated in 5 U.S.C. 552a(j)(2) are exempted from the notice, access, and contest requirements of the agency regulations and from all parts of 5 U.S.C. 552a except subsections (b), (c) (1) and (2), (e)(4) (A) through (F), (e) (6), (7), (9, (10), and (11), and (i) and pursuant to 5 U.S.C. 552a(k) (1), (2) and (5), on condition that the 5 U.S.C. 552a(j) (2) exemption is held to be invalid, all information and material in the record which meets the criteria of these three subsections are exempted from the notice, access, and contest requirements under (5 U.S.C. 552a (c)(3), (d), (e) (1), (4) (G), (H), and (I), and (f) of the agency regulations. The exemption of this information and material is necessary in order to accomplish this law enforcement function of the agency, to prevent disclosure of classified information as required by Executive Order 11652, to assure the protection of the President, to prevent subjects of investigation from frustrating the investigatory process, to prevent the disclosure of investigative techniques, to fulfill commitments made to protect the confidentiality of sources, to maintain access to sources of information, and to avoid endangering these sources and law enforcement personnel.

COMMERCE/DEPT.–13

System name:

Investigative Records-Persons Within the Investigative Jurisdiction of the Department—COMMERCE/DEPT.-13.

System location:

Departmental Office of Investigations and Security, OS, Main Commerce Bldg., Washington, D.C. 20230.

Categories of individuals covered by the system:

Nominees, members, and former members of public advisory committees, trade missions, and export councils; employees, former employees, and prospective employees; research associates; and guest workers. Employees of contractors used, or which may be used, by the Department on national security classified projects. Principal officers of some contractors used, or which may be used by the Department. Principal officers and some employees of organizations, firms or institutions which are recipients or beneficiaries or prospective recipients or beneficiaries, of grants, loans, or loan guarantee programs of the Department.

Categories of records in the system:

Name; address; date and place of birth; citizenship; physical characteristics; employment and military service history; credit references and credit records; education; medical history; arrest records; Federal employee relatives; dates and purpose of visits to foreign countries; passport numbers; names of spouses, relatives, references, and personal associates; activities; and conflict of interest, security, and suitability materials.

Authority for maintenance of the system:

Executive Orders 10450, 11478, 11652; 5 U.S.C. 301 and 7531–32; 15 U.S.C. 1512; 28 U.S.C. 533–535; 44 U.S.C. 3101; and Equal Employment Act of 1972.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses:

Information concerning nominees, members, and former members of public advisory committees may be disclosed: (1) to OMB in connection with its committee management responsibilities; (2) to other Federal agencies which have joint responsibility for advisory committees or which receive or utilize advice of the committees; and (3) to a Federal, state or local agency, private organization or individual as necessary to obtain information in connection with a decision concerning appointment or reappointment of an individual to committee membership.

Information concerning (1) nominees, members, and former members of trade missions and export councils; (2) current employees, former employees, and prospective employees; (3) research associates; (4) guest workers; (5) employees of contractors used, or which may be used, by the Department on national security classified projects; (6) principal officers of some contractors used, or which may be used, by the Department; and (7) principal officers and some employees of organizations, firms, or institutions which are recipients or beneficiaries, or prospective recipients or beneficiaries, of grants, loans, guarantee, or other assistance programs of the Department;—may be disclosed to a private organization or individual as necessary to obtain information in connection with a decision concerning the assignment, hiring, or retention of an individual, the issuance of a security clearance, the letting of a contract, or the issuance of a license, grant or other benefit. See routine use paragraphs in Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage:

Paper records in file folders.

Retrievability:

Filed alphabetically by name.

Safeguards:

Locked cabinets in secure rooms in guarded buildings, and used only by authorized screened personnel.

Retention and disposal:

When cases are closed, records are disposed of in accordance with the unit's Records Control Schedule.

System manager(s) and address:

Director, Office of Investigation and Security, OS, Main Commerce Building, Washington, D.C. 20230.

Notification procedure:

Information may be obtained from: Director, Office of Organization and Management Systems, U.S. Department of Commerce, Washington, D.C. 20230. Requester should provide name and association with the Department, pursuant to the inquiry provisions of the Department's rules which appear in 15 CFR Part 4b.

Record access procedures:

Requests from individuals should be addressed to: same address as stated in the notification section above.

Contesting record procedures:

The Department's rules for access for contesting contents, and appealing initial determinations by the individual concerned appear in 15 CFR Part 4b. Use above address.

Record source categories:

Subject individuals; CSC, FBI and other Federal, state, and local agencies; individuals and organizations that have pertinent knowledge about the subject; and, those authorized by the individual to furnish information.

Systems exempted from certain provisions of the act:

Pursuant to 5 U.S.C. 552a (k(1), (k) (2) and (k) (5), all information and material in the record which meets the criteria of these subsections are exempted from the notice, access, and contest requirements under 5 U.S.C. 552a (c) (3), (d), (e) (1), (e) (4) (G), (H), and (I), and (f) of the agency regulations because of the necessity to exempt this information and material in order to accomplish this law enforcement function of the agency, to prevent disclosure of classified information as required by Executive Order 11652, to assure the protection of the President, to prevent subjects of investigation from frustrating the investigatory process, to prevent the disclosure of investigative techniques, to fulfill commitments made to protect the confidentiality of information, and to avoid endangering these sources and law enforcement personnel.

COMMERCE/DEPT–18

System name:

Employee Personnel Files Not Covered By U.S. Civil Service Commission COMMERCE/DEPT–18.

System location:

a. For employees of Departmental Offices, Offices of Federal Cochairmen, RAPCs, ARC, NFPCA, BEA, EDA, OMBE, USTS, OTEL, and NTIS: Processing and Servicing Branch, Departmental Office of Personnel, Room 5014, U.S. Department of Commerce, Washington, D.C. 20230;

b. For employees of CENSUS: Office of Personnel, Bureau of Census, Federal Building 3, Room 3260, Washington, D.C. 20233;

c. For employees of DIBA: Office of Personnel, Domestic and International Business Administration, Room 3512, U.S. Department of Commerce, Washington, D.C. 20230;

d. For employees of MARAD: Division of Career Management, MARAD Office of Personnel, Room 1099–C, U.S. Department of Commerce, Washington, D.C. 20230;

e. For employees of NBS: Office of Personnel, National Bureau of Standards, Administration Building, Room A123, Gaithersburg, Maryland 20760; and National Academy of Sciences, 2100 Pennsylvania Avenue, N.W., Room JH-606, Washington, D.C. 20037;

f. For employees of NOAA: Personnel Division, National Oceanic and Atmospheric Administration, Rockville, Maryland 20852; and

g. For employees of PAT-TM: Office of Personnel, U.S. Patent and Trademark Office, U.S. Department of Commerce, Room 9C06, Crystal Plaza, 2, Arlington, Virginia 22202.

Categories of individuals covered by the system:

Current and former employees.

Categories of records in the system:

All personnel records in the Department which are subject to the Privacy

Act but are not covered in the notices of systems of records published by the U.S. Civil Service Commission. The records of this system may include, but are not limited to: Employee Development; Incentive Awards; International Women's Year; Medical; Career Management Program; Ship Personnel; Employee Overseas Assignment, and Relations; Minority Group Statistics; Personnel Uniform ADP System; Experts and Consultants Quarterly Review; Re-Employment Priority; Repromotion Priority; Merit Promotion Programs; Within-Grade Denials (Reconsideration File); and, Employee Information System.

Authority for maintenance of the system:

5 U.S.C. 301; 44 U.S.C. 3101; and Federal Personnel Manual and related directives of the U.S. Civil Service Commission.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses:

Information concerning current or former employees may be disclosed to a private organization or individual as necessary to obtain information in connection with a decision concerning the assignment, hiring, or retention of an individual, the issuance of a security clearance, the letting of a contract, or the issuance of a license, grant or other benefit. See routine uses paragraphs in the Prefatory Statement and routine uses paragraphs of U.S. Civil Service Commission notices of systems of records.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage:

Manual and machine readable.

Retrievability:

Filed by name and/or social security number.

Safeguards:

Records are located in lockable metal file cabinets or in metal file cabinets in secured rooms or secured premises with access limited to those whose official duties require access.

Retention and disposal:

Retained according to Unit's Records Control Schedule.

System manager(s) and address:

For records at location a.: Chief, Processing and Servicing Branch, Office of Personnel, Room 5014, U.S. Department of Commerce, Washington, D.C. 20230;

For records at location b.: Chief of Personnel, Bureau of the Census, Federal Building 3, Room 3260, Washington, D.C. 20233;

For records at location c.: Director of Personnel, Domestic and International Business Administration, U.S. Department of Commerce, Room 3512, Washington, D.C. 20230;

For records at location d.: Chief, Division of Career Management, Office of MARAD Personnel, Room 1099-C, U.S. Department of Commerce, Washington, D.C. 20230;

For records at location e.: Chief of Personnel, National Bureau of Standards, Administration Building, Room A123, Gaithersburg, Maryland 20760;

For records at location f.: Chief, Personnel Division, National Oceanic and Atmospheric Administration, NBOC2, Rockville, Maryland 20852; and

For records at location g.: Personnel Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Room 9C06, Crystal Plaza 2, Arlington, Virginia 22202.

Notification procedure:

For BEA records at location a., information may be obtained from: Special Assistant to the Director, BEA, Tower Building, 1401 K Street, N.W., Washington, D.C. 20005;

For EDA records at location a., information may be obtained from: Director, Office of Public Affairs, EDA, U.S. Department of Commerce, Washington, D.C. 20230;

For NFPCA records at location a., information may be obtained from: Administrative Officer, NFPCA, 2400 M Street, N.W., Washington, D.C. 20230;

For OEP records at location a., information may be obtained from: Deputy Director, OEP, U.S. Department of Commerce, Washington, D.C. 20230;

For OMBE records at location a., information may be obtained from: Assistant Director, Field Operations and Administration, OMBE, U.S. Department of Commerce, Washington, D.C. 20230;

For OTEL records at location a., information may be obtained from: Administrative Officer, OTEL, 1325 G Street, N.W., Washington, D.C. 20231;

For USTS records at location a., information may be obtained from: Executive Director, USTS, U.S. Department of Commerce, Washington, D.C. 20230; and

For NTIS records at location a., information may be obtained from: Deputy Director, NTIS, U.S. Department of Commerce, Washington, D.C. 20230;

For all other records at location a., information may be obtained from: Director, Office of Organization and Management Systems, U.S. Department of Commerce, Washington, D.C. 20230.

For records at location b., information may be obtained from: Associate Director for Administration, Bureau of the Census, Federal Building 3, Washington, D.C. 20233;

For records at location c., information may be obtained from: Director, Office of Management and Systems, Domestic and International Business Administration, Washington, D.C. 20230;

For records at location d., information may be obtained from: Secretary, Maritime Administration, Washington, D.C. 20230;

For records at location e., information may be obtained from: Associate Director for Administration, National Bureau of Standards, Gaithersburg, Maryland (P.O. Washington, D.C. 20234);

For records at location f., information may be obtained from: Assistant Administrator for Administration, National Oceanic and Atmospheric Administration, 6010 Executive Boulevard, Rockville, Maryland 20852; and

For records at location g., information may be obtained from: Assistant Commissioner for Administration, U.S. Patent and Trademark Office, Washington, D.C. 20231.

Requester should provide name, social security number, and time or organization unit of employment pursuant to the inquiry provisions of the Department's rules which appear in 15 CFR Part 4b.

Record access procedures:

Requests from individuals should be addressed to: Same address as stated in the notification section above.

Contesting record procedures:

The Department's rules for access, for contesting contents, and appealing initial determinations by the individual concerned appear in 15 CFR Part 4b. Use above address.

Record source categories:

Subject individual and those authorized by the individual to furnish information; others involved in references of the individual; physicans; employee's supervsor; and, sources in the U.S. Civil Service Commission notices.

[FR Doc.77-851 Filed 1-11-77;8:45 am]

DEPARTMENT OF DEFENSE

Office of the Secretary of Defense

DEFENSE SCIENCE BOARD TASK FORCE ON NET TECHNICAL ASSESSMENT

Change of Meeting Dates

The meeting of the Defense Science Board Task Force on Net Technical Assessment scheduled for January 18-19, 1977 at the Pentagon, Washington, D.C., as published in the FEDERAL REGISTER (41 FR 55570, December 21, 1976—FR Doc. 76-37384), has been postponed until February 3-4, 1977. In all other respects, the original notice cited above remains the same.

MAURICE W. ROCHE,
Director, Correspondence and Directives OASD (Comptroller).

JANUARY 6, 1977.

[FR Doc.77-1036 Filed 1-11-77;8:45 am]

ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

PROCUREMENT POLICY ADVISORY COMMITTEE

Meeting

JANUARY 7, 1977.

In accordance with provisions of Public Law 92-463 (Federal Advisory Committee Act) the Procurement Policy Advisory Committee will meet from 9:00 a.m. to 3:00 p.m. on Thursday, January 27, 1977, in Room 2010 (second floor), New Executive Office Building.

726 Jackson Place, NW, Washington, DC. The meeting will be open to the public.

The purpose of the meeting is to select a chairman, to discuss in greater detail the purpose and operation of the committee and to discuss selected substantive procurement issues suggested by committee members. The agenda of the meeting is as follows:

9:00-9:15	Selection of chairman.
9:15-9:45	Discussion of committee purpose.
9:45-10:00	Discussion of committee operations.
10:00-10:30	ERDA cost participation policy. Discussion will focus principally on the nature and form of contractors' contribution to costs of contract performance.
10:30-10:45	Break.
10:45-11:15	ERDA unsolicited proposal regulation. Impact of ERDA Temporary Regulation No. 21, dated July 15, 1976, will be examined.
11:15-11:30	Impact of organizational conflicts of interest clauses. Discussion will focus principally on risks of discouraging competent companies from proposing on ERDA procurements.
11:30-12:30	Lunch.
12:30-1:00	Effect of standard reporting requirements. To be discussed from viewpoint of imposition of inappropriate reporting requirements for the tasks to be performed; also the need to reduce volume of reports.
1:00-1:30	Impact of ERDA contract funding practices. To be discussed from viewpoint of effects of delayed funding on contractors' cost and capital exposure.
1:30-1:45	Institution-to-institution concept. Basic contractual arrangement between ERDA and an institution of independent entities will be examined.
1:45-2:00	Use of basic agreements. Advantages and disadvantages of basic agreements with contractors receiving multiple ERDA project support will be examined.
2:00-3:00	Reserved for overflow or introduction of other issues.

Practical considerations may dictate unannounced alterations in the agenda or schedule.

Mr. Michael J. Tashjian, Director of Procurement, will chair the meeting. The chairman is empowered to conduct the meeting in a manner that in his judgment will facilitate the orderly conduct of business.

With respect to public participation in agenda items, scheduled above, the following requirements shall apply:

(a) Persons wishing to submit written statements on agenda items may do so by mailing 12 copies thereof post-marked no later than January 20, 1977, to the Director of Procurement, Room C-167, U.S. Energy Research and Development Administration, Washington, DC, 20545. Comments shall be directly relevant to the above agenda items. Minutes of the meeting will be kept open for 30 days for the receipt of written statements for the record.

(b) Information as to whether the meeting has been rescheduled or relocated can be obtained by a prepaid telephone call on January 21, 1977, to Mr. Harry M. Tayloe, Division of Procurement, on (301) 353-5526 between 8:30 a.m. and 5:00 p.m. e.s.t.

(c) Questions at the meeting may be propounded only by members of the committee and ERDA officials assigned to participate with the committee in its deliberations.

(d) Seating will be made available to the public on a first-come, first-served basis.

(e) The use of still movie, and television cameras, the physical installation and presence of which will not interfere with the course of the meeting, will be permitted both before and after the meeting and during any recess. The use of such equipment will not, however, be allowed while the meeting is in session.

(f) Copies of minutes will be made available for copying, following their certification by the chairman, in accordance with the Federal Advisory Committee Act, at the Energy Research and Development Administration's Public Document Room, 20 Massachusetts Avenue, NW., Washington, DC. 20545, upon payment of all charges required by law.

HARRY L. PEEBLES,
Deputy Advisory Committee
Management Officer.

[FR Doc.77-1113 Filed 1-11-77;8:45 am]

ENVIRONMENTAL PROTECTION AGENCY

[FRL 654-8]

IDENTIFICATION OF PRODUCTS AS MAJOR SOURCES OF NOISE

Power Lawn Mowers, Report

The Noise Control Act of 1972 (P.L. 92-574, 86 Stat. 1234) established, by statutory mandate, a national policy "to promote an environment for all Americans free from noise that jeopardizes their health or welfare." The Act provides for a division of power between the Federal, State and local governments in which the primary Federal responsibility is for noise source emission control of products entering interstate commerce. The States and other political subdivisions retain authority to establish and enforce controls on environmental noise through licensing, regulation, or restriction of the use, operation, or movement of noise sources and on the level of noise permitted in their environments. As specified in the Noise Control Act of 1972, the first step toward promulgation of noise standards for new products is identification of those products that are major sources of noise. Section 5(b) of the Act provides as follows:

"The Administrator shall, after consultation with appropriate Federal agencies, compile and publish a report or series of reports (1) identifying products (or classes of products) which in his judgment are major sources of noise, and (2) giving information on techniques for control of noise from such products, including available data on the technology, costs, and alternate methods of noise control." Section 6(a)(1)(C) sets out four categories of products, that, once identified as major sources of noise, require the proposal of Federal regulations if such regulations are feasible:

1. Construction equipment.
2. Transportation equipment (including recreational vehicles and related equipment).
3. Any motor or engine (including any equipment of which an engine or a motor is an integral part).
4. Electrical or electronic equipment.

On June 21, 1974 (39 FR 22297), the Administrator published the first report under section 5(b) identifying two products as major sources of noise: medium and heavy trucks and portable air compressors. That report also listed a number of other candidates for possible future identification.

In the second report under section 5(b), published on May 28, 1975 (40 FR 23069), the Administrator identified the following six products as major sources of noise: motorcycles, buses, wheel and track loaders and wheel and track dozers (earth moving equipment), truck transport refrigeration units, and truck-mounted solid waste compactors (special auxiliary equipment on trucks). Also listed in that report were a number of candidates for possible future identification as major sources of noise. These were arrayed in the following categories: surface transportation; air transportation (not candidates for section 6 regulation); construction/industrial equipment; recreational vehicles; lawn care equipment; and household appliances.

APPROACH USED TO ASSESS ENVIRONMENTAL IMPACT

To accomplish the broad intent of the Noise Control Act of 1972, the EPA has developed an overall framework for assessing the environmental impact of all the sources of environmental noise. The first step of this development was the Title IV report ("Report to the President and Congress on Noise," February 1972), which provided an initial data base on noise reduction technology appropriate to various product types, environmental noise levels, and criteria related to public health and welfare. The second step was the publication of the "Criteria Document" ("Public Health and Welfare Criteria for Noise," EPA, July 27, 1973) as required by section 5(a)(1) of the Noise Control Act of 1972. The third step was the publication of the "Levels Document" ("Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," EPA, March 1974) as required by section 5(a)(2).

Thet levels identified in the "Levels Document" are based on the risks to public health and welfare from noise pollution without regard for cost or technical feasibility. To identify the levels, EPA selected two cumulative energy measures for quantifying noise exposures that can be related to human responses.

1. Leg, the A-weighted equivalent sound level (the source level in dBA conveying the same sound energy as the actual time-varying sound during a given period) was selected as a descriptor of noise relative to long-term hazard to hearing.

2. Ldn, the day-night average sound level (the 24 hour Leg with a 10 dBA penalty applied to the period from 10 p.m. to 7 a.m.) was selected as a descriptor of noise relative to interference with human activities, e.g., speech communication, sleep, and other factors that may lead to annoyance.

An abbreviated summary of the identified levels is given in Table 1.

TABLE 1.—*Noise levels protective of health and welfare*

Human response	Leq	Ldn
Hearing loss (8 h)	75	
Hearing loss (24 h)	70	
Outdoor interference and annoyance		55
Indoor interference and annoyance		45

IDENTIFICATION OF MAJOR NOISE SOURCES

In determining whether a product (or a class of products) is a major noise source for regulation under Section 6 of the Act, the Administrator considers primarily the following factors:

(1) the intensity, character and/or duration of the noise emitted by the product (or class of product) and the number of people impacted by the noise.

(2) whether that product, alone or in combination with other products, causes noise exposure in defined areas under various conditions, which exceed the levels requisite to protect the public health and welfare with an adequate margin of safety;

(3) whether the spectral content or temporal characteristics, or both, of the noise make it irritating or instrusive, even though the noise level may not otherwise be excessive;

(4) whether the noise emitted by the product causes intermittent single event exposure leading to annoyance or activity interference.

The EPA hereby identifies power lawn mowers as major sources of noise in accordance with section 5(b) of the Noise Control Act of 1972. A future report, as prescribed in section 5(b)(2) of the Act, will provide information on techniques for control of noise, available data on technology, associated costs, and alternate methods of noise control.

BACKGROUND

Power lawn mowers contribute substantially to outdoor environmental noise impacts and particularly to occupants of individual homes, and the persons who operate the lawn mowers. Data developed by the Stanford Research Institute (SRI) report entitled "An Economic Analysis of the Consumers Union Proposed Safety Standard for Lawn Mowers" for the Outdoor Power Equipment Institute, Inc. (OPEI) indicates that there are in excess of 40 million power lawn mowers in use in the United States.

Considering only the operators of lawn mowers, data on environmental noise impact acquired earlier by EPA indicate that such operators are subjected to sound levels ranging from 87 to 95 decibels (See EPA Report 550/9-7-74-011). It is estimated that the typical operator is exposed to these sound levels about 50 hours per year. In terms of yearly average 8-hour equivalent sound level [Leq (8)], the estimated noise exposure for the typical operator ranges from 71 to 79 decibels.

Although earlier EPA data led to an estimate of 23 million persons exposed as operators to the noise of lawn mowers, the more recent SRI/OPEI figure of the number of mowers in operation implies that 40 million operators are affected. This represents a very large environmental noise impact, merely with respect to operators. In a typical case two to three family members also may be involuntarily exposed as bystanders to outdoor lawn mower noise, at levels from 10 to 20 decibels lower than those experienced by the operator.

Furthermore, in a typical usage setting, five sets of neighbors within a radius of 100 feet also might be exposed as uninterested (and therefore, potentially annoyed) bystanders to sound levels about 10 decibels belows those experienced by the operator's family. Since each neighbor at some time will be affected by the lawn mower noise of five other neighbors in this setting, the cumulative noise exposure due to neighbors' lawn mowers will be only about 3 decibels less than the non-operator's exposure due to one's own family lawn mower. The noise impact, however, may be greater for the neighbors, because of the annoyance associated with their lack of control over that noise exposure.

In effect then, the environmental noise impact due to power lawn mowers can be defined in terms of some 40 million operators exposed to Leg(8) (relevant to risk of hearing damage) ranging from 71 to 79 decibels, and over 80 million non-operators exposed to Leg(24) (relevant to activity interference and annoyance) ranging from 48 to 65 decibels. In view of the large number of persons potentially affected by such levels of environmental noise exposure, it is clear that power lawn mowers are a major source of noise.

The fact that identified levels are exceeded, in terms of criteria for hearing loss, activity interference and annoyance, indicates the occurrence of rather intense and objectionable short-term or single event exposures for intermittent noise sources. This intermittently occurring noise of the lawn mower experienced by neighbors or bystandards is widely recognized as intense enough in many situations to disturb rest and relaxation, interfere with speech communications and social interaction, disrupt sleep in the early morning hours, and generally degrade the quality of residential life. Furthermore, the lawn mower may be perceived as more disrupting and disturbing than might be inferred from the noise expsoure levels, since it is most typically used in residential areas with low background noise levels and at times when the residents may be trying to relax (typically weekends and evenings). The public perception of lawn mower noise as a significant health or environmental problem is reflected by the many municipal ordinances and State laws attempting to lessen emissions or exposure to lawn mower noise.

FUTURE ACTIONS

In the development of regulations for power lawn mowers, possible noise labeling requirements pursuant to section 8 of the Act will be examined as well as noise control standards.

EPA will be selecting other products for future identification from among the possible candidates (listed in the earlier reports) and others which may come to light. The order in which they are identified will depend upon the various considerations discussed previously, of which environmental noise impact is a major, but not exclusive, consideration. Automobiles, snowmobiles, light trucks, tires, and pneumatic and hydraulic impact tools are currently under study. EPA also intends to initiate studies, during 1977, of home air conditioners, chain saws, earth moving equipment (backhoes, shovels and similar devices), and guided mass transit equipments.

This report is issued under authority of the Noise Control Act of 1972, section 5(b)(1), 86 Stat. 1236, 42 U.S.C. 4904 (b)(1).

RUSSELL E. TRAIN,
Administrator.

DECEMBER 30, 1976.

[FR Doc.77-1030 Filed 1-11-77;8:45 am]

[FRL 669—8; OPP-180109]

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

Crisis Exemption To Use DDT To Control Rabid Bats

Pursuant to the provisions of section 18 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended (86 Stat. 973; 89 Stat. 751; 7 U.S.C. 136(a) et seq.), the Environmental Protection Agency (EPA) gives notice that the Massachusetts Department of Public Health (hereafter referred to as "Massachusetts") has availed itself of a crisis exemption to use 50% WDP DDT to control rabid bats discovered in a private residence in Rehobeth, Massachusetts. The exemption is subject to the provisions of sections 166.2, 166.8, and 166.9 of 40 CFR Part 166. These regulations concerning exemption of Federal and State agencies for the use of pesticides under emergency conditions were published in the FEDERAL REGISTER on December 3, 1973 (38 FR 33303). As required, Massachusetts has submitted in writing the following certified information.

According to Massachusetts, the private residence has had a history of bat problems; specifically involved are large brown bats. In the late summer of 1976, the DDT formulation registered with the Center for Disease Control (CDC), U.S. Department of Health, Education, and Welfare, was used as labeled and as prescribed in the CDC guidelines in an effort to control the bats. This attempt failed; the bat colony remained, and a downed bat was found positive for rabies by laboratory analysis.

No pesticide registered for this particular use to eradicate or control the bats was readily available. The time element was so critical that there was no time to request a specific exemption; one rabid bat was found by the family's dog, and one bat was found resting in an infant's crib.

On October 22, 1976, DDT was dusted into six holes drilled from the outside of the house into the area of bat activity; DDT was also dusted into a small overhead above the resting area through which the chimney passes. The latter was done in the event the bats had sought the warmth of the chimney. Approximately 1.25 pounds of 50 percent WDP DDT was used. The operation was carried out by trained and experienced commercial applicators, with the DDT supplied by the Commonwealth of Massachusetts. The treatment was made under the direction of the Massachusetts Department of Environmental Quality Engineering. The DDT was blown into voids in the structure under such pressures as to avoid "blow back" and entry into the living spaces.

Dated: January 3, 1977.

DOUGLAS D. CAMPT,
Acting Director,
Registration Division.

[FR Doc.77-1029 Filed 1-11-77;8:45 am]

[FRL 6701; OOP-180106]

TEXAS DEPARTMENT OF HEALTH RESOURCES

Crisis Exemption To Use DDT To Control Rabid Bats

Pursuant to the provisions of section 18 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amendd (86 Stat. 973; 89 Stat. 751; 7 U.S.C. 136(a) et seq.), the Environmental Protection Agency (EPA) gives notice that the Texas Department of Health Resources (hereafter referred to as "Texas") has availed itself of a crisis exemption to use DDT 50% powder to control rabid bats discovered in a housing project in San Antonio, Texas; this housing project is on Federal property under the control of the Housing Authority of the city of San Antonio. The exemption is subject to the provisions of §§ 166.2, 166.8, and 166.9 of 40 CFR Part 166. These regulations concerning exemption of Federal and State agencies for the use of pesticides under emergency conditions were published in the FEDERAL REGISTER on December 3, 1973 (38 FR 33303). As required, Texas has submitted in writing the following certified information.

According to Texas, complaints were received in 1973, 1974, and 1975 about bat populations roosting in the high-density housing area involved. In each instance, the bats apparently migrated before any concerted efforts to eradicate them could be made. However, in 1976, tenants occupying nine buildings in the housing project registered complaints that there had been a sharp increase in the number of bats sighted, smelled, and heard. There were so many bats that some were hanging on the outside walls of buildings. The manager of the housing project alerted the pest control contractor. Bats were trapped by the contractor and submitted for laboratory analysis; one of ten bats submitted was positive for rabies. The responsible State agency was contacted, an investigation conducted, and a determination made that a crisis situation existed.

The manager of the housing project recorded complaints received from tenants regarding bats seen at the various buildings. This information, coupled with techniques of locating the predominant passenges used by the bats for entrance and exit from the buildings, allowed the pest control contractor to evaluate locations requiring treatment. All except one of the buildings involved are comprised of eight units; the population of the entire housing project is 2,300, of which 1,600 are children age 18 or under.

At the various points of entrance to the buildings, there were areas which had taken on a marked greasy appearance. These "rubs" were caused by the bats depositing body oils and filth. The odor of bats and their droppings was quite noticeable from a distance of thirty to forty feet from the rubs. The rubs were located approximately 16 feet from the ground, under the eaves, and near the fire wall which separates each unit. After locating the rubs, the contractor's personnel began treating each attic with 50 percent DDT powder. The attics were too small for men to enter; the powder was blown into the openings along the eaves and fire walls with pressure tanks and handpumps. Some bats were visible in the expansion joints and, during the course of treating the buildings, many were seen flying from their roosting areas.

A total of 56 pounds of the 50 percent DDT powder was used on August 24, 1976. Prior to dusting, all families in the buildings concerned were required to evacuate for a minimum of four hours. The contractor personnel collected all dead and dying bats from the housing premises on August 24. On the second and successive days, the Federal housing employees were responsible for the collection. The City of San Antonio Animal Control unit patrolled outside the Federal property to remove sick and dead bats that were able to fly beyond the housing area. Follow-up inspections revealed a decrease in the number of bats, according to Texas.

The Housing Authority of San Antonio plans to take steps to exclude bats from the buildings by screening, and closing openings with wood and other materials. In addition, Texas stated that an ongoing program of remodeling the units will effectively prevent the ingress of the bats in the future.

Dated: January 3, 1977.

DOUGLAS D. CAMPT,
Acting Director,
Registration Division.

[FR Doc.77-1028 Filed 1-11-77;8:45 am]

FEDERAL COMMUNICATIONS COMMISSION

[Report No. 838]

COMMON CARRIER SERVICES INFORMATION

Applications Accepted for Filing

DECEMBER 27, 1976.

The applications listed herein have been found, upon initial review, to be acceptable for filing. The Commission reserves the right to return any of these applications, if upon further examination, it is determined they are defective and not in conformance with the Commission's rules and regulations or its policies.

Final action will not be taken on any of these applications earlier than 31 days following the date of this notice, except for radio applications not requiring a 30 day notice period (See section 309(c) of the Communications Act), applications filed under Part 68, applications filed under Part 63 relative to small projects, or as otherwise noted. Unless specified to the contrary, comments or petitions may be filed concerning radio and section 214 applications within 30 days of the date of this notice and within 20 days for Part 68 applications.

In order for an application filed under Part 21 of the Commission's Rules (Domestic Public Radio Services) to be considered mutually exclusive with any other such application appearing herein, it must be substantially complete and tendered for filing by whichever date is earlier: (a) The close of business one business day preceding the day on which the Commission takes action on the previously filed application; or (b) within 60 days after the date of the public notice listing the first prior filed application (with which the subsequent application is in conflict) as having been accepted for filing. In common carrier radio services other than those listed under Part 21, the cut-off date for filing a mutually exclusive application is the close of business one business day preceding the day on which the previously filed application is designated for hearing. With limited exceptions, an application which is subsequently amended by a major change will be considered as a newly filed application for purposes of the cut-off rule. (See §§ 1.227(b)(3) and 21.30(b) of the Commission's rules.)

FEDERAL COMMUNICATIONS COMMISSION,
VINCENT J. MULLINS,
Secretary.

APPLICATIONS ACCEPTED FOR FILING

DOMESTIC PUBLIC LAND MOBILE RADIO SERVICE

20425-CD-P-77, Chicago Communications Service, Inc. (KSD310), C.P. to relocate facilities operating on 454.150 MHz located at Sears Tower, Chicago, Illinois.

20426-CD-P-(3)-77, New York Telephone Company (KEC932), C.P. to relocate facilities and change antenna system operating on 454.675, 454.700 and 454.775 MHz to be located at 123-33 83rd Avenue, Kew Gardens, New York.

20427-CD-P-77, Bay Springs Telephone Company, Inc. (KLB565), C.P. to reinstate expired facilities operating on 152.72 MHz located 400' West of Hwy. No. 15, 1 mile North of Jasper Co. Courthouse, Bay Springs, Mississippi.

20428-CD-P-(2)-77, Valley Telephone Coop, Inc. (KLB559), C.P. to relocate facilities, change antenna system and replace transmitter operating on 152.69 and 152.78 MHz located 8 miles east of Lyford, Texas.

20429-CD-P-77, Nashville Mobilphone, Inc. (KFL864), C.P. for additional facilities to operate on 152.12 MHz at Loc. No. 3: Shelbyville Pike, 5.3 miles south of Murfreesboro, Tennessee.

20430-CD-P-77, Telpage, Inc. (KIY757), C.P. to change frequency from 35.22 MHz to 152.24 MHz located at 1576 Mt. Meigs Road, Montgomery, Alabama.

20431-CD-P-(4)-77, Mobilfone Northwest (KLF563), C.P. for additional facilities to operate on 72.02 MHz and 72.10 MHz, Repeater at Loc. No. 5: 9.3 miles east of Spokane, Washington; and for additional facilities to operate on 75.82 MHz and 75.84 MHz, Control at a new Loc. No. 6: 3707 north Monroe, Spokane, Washington.

20432-CD-P-(2)-77, Southern Bell Telephone and Telegraph Company (KIY514), C.P. to replace transmitter operating on 152.63 MHz, Base located 3 miles NE of Asheville, North Carolina; and replace transmitter operating on 157.89 MHz, Test located at 24 O'Henry Avenue, Asheville, North Carolina.

20434-CD-P-77, Tel-Illinois, Inc. (KUC970), C.P. to change frequency from 152.24 MHz to 158.70 MHz located at Existing tower, 3 miles north of Marion, Illinois.

20435-CD-P-(2)-77, Mobilfone of Northeastern Pennsylvania, Inc. (KGI781), C.P. for addition facilities to operate on 72.58 MHz, Control at Loc. No. 1: Atop Bald Mountain, Adjacent to Radio Station WWDL-FM, Scranton; and for additional facilities to operate on 152.24 MHz, Base at a new Loc. No. 2: Top of Penobscott Knob, Hanover Township, Pennsylvania.

20436-CD-P-77, Industrial Communications Systems, Inc. (New), C.P. for a new 1-way station to operate on 158.70 MHz to be located at Santa Ynez Peak, 8.7 miles SE of Santa Ynez, California.

20437-CD-P-(2)-77, San Juan Radiotelephone Corporation (WWA311), C.P. to relocate facilities operating on 454.025 and 454.075 MHz from Loc. No. 4 to Loc. No. 3: Atop El Yunque Peak, Puerto Rico.

20438-CD-P-77, Industrial Electronics and Automation Co., Inc. d.b.a. Dial-A-Page (New), C.P. for a new 1-way station to operate on 158.70 MHz to be located on Chief Black Otter Trail West, Billings, Montana.

20439-CD-P-(2)-77, Mobilfone of Erie, Inc. (New), C.P. for a new station to operate on 454.025 and 454.075 MHz to be located at Donation Rd., near East Rd., 5.6 miles S.E. of Erie, Pennsylvania.

20440-CD-P-77, Radio Enterprises of Ohio, Inc. (KUS280), C.P. to change antenna system operating on 35.22 MHz at Loc. No. 3: 111 Water Street, Chardon, Ohio.

20441-CD-P-77, United Telephone Company of Florida (New), C.P. for a new station to operate on 157.95 MHz to be located at 115 S. Parrott Avenue, Okeechobee, Florida.

20442-CD-P-77, United Telephone Company of Florida (New), C.P. for a new station to operate on 157.86 MHz to be located at 124 North Seventh Avenue, Wauchula, Florida.

20443-CD-P-77, United Telephone Company of Florida (New), C.P. for a new station to operate on 157.77 MHz to be located at 790 South Access Road, Port Charlotte, Florida.

20444-CD-P-77, Edward C. Smith d.b.a. Answerite Professional Telephone Service (KQZ782), C.P. to relocate facilities operating on 158.70 MHz to 519 E. First Street, Sanford, Florida.

20445-CD-TC-77, Aztec Communications, Inc. Consent to Transfer of Control from Aztec Communications, Inc., Transferor to General Communications Service, Inc., Transferor. Stations: KTS253, KLF632, KLF632, KIQ510, KIB388, Jacksonville, Florida; KTS254, St. Augustine, Florida.

MAJOR AMENDMENT

22767-CD-P-(3)-76, Centrex Communications, Inc. (New), Amend antenna system operating on frequencies 454.075 and 454.225 MHz. All other particulars to remain the same as reported on PN No. 822 dated September 7, 1976.

POINT TO POINT MICROWAVE RADIO SERVICE

685-CF-P-77, General Telephone Company of California (New), 211 West D Street, Ontario, California. Lat. 34°04'00" N., Long. 117°39'09" W., C.P. for a new station on frequencies 10835V MHz toward Chantry Fit passive reflector, California on azimuth 291.2° and from passive reflector to Arcadia on azimuth 146.6°; 10815V MHz toward Lytle Creek, California on azimuth 40.8° and 11075V 10835H MHz toward Box Springs, California on azimuth 107.8°.

686-CF-P-77, Same (New), Box Springs, 6.5 miles E. Riverside, California. Lat. 33°58'05" N., Long. 117°17'13" W., C.P. for a new station on frequencies 11525V and 11285H MHz toward Ontario, California on azimuth 288.0°, 11605H MHz toward Perris, Calif. on azimuth 164.7° and 11525V MHz toward Mt. Davis, Calif. on azimuth 102.9°.

687-CF-P-77, Same (New), 120 E 3rd Street, Perris, California. Lat. 33°47'02" N., Long. 117°13'36" W., C.P. for a new station on frequency 11155H MHz toward Box Springs, Calif. on azimuth 344.7°.

688-CF-P-77, Same (New), Mt. Davis 2 miles SW, Beaumont, California. Lat. 33°54'44" N., Long. 116°59'47" W., C.P. for a new station on frequencies 10895V MHz toward Box Springs, Calif. on azimuth 283.1° 10775V MHz toward Whitewater, Calif. on azimuth 81.4°.

689-CF-P-77, Same (KY059), 2.2 miles NNW of Whitewater, California. Lat. 33°57'17" N., communication on frequency 11305V MHz toward Mt. Davis, Calif., to add frequency 11525V MHz toward Palm Springs, Calif. and to correct coordinates of Palm Springs receive station.

690-CF-P-77, Same (KNL67), 295 N. Sunrise Way, Palm Springs, California. Lat. 33°49'35" N., Long. 116°31'41" W., C.P. to correct coordinates, to add frequency 11075V MHz toward Whitewater, Calif.; to change frequencies 5989.7H and 6108.3H to 10895V and 11135V MHz toward Pierson passive reflector and from passive reflector to Yucca Valley and replace transmitter.

691-CF-P-77, Same (KXQ74), 57188 Yucca Trail, California. Lat. 34°07'15" N., Long. 116°24'57" W., C.P. to change frequencies 6241.7H and 6360.3H to 11585V and 11345V MHz toward Pierson and passive reflector to Palm Springs, Calif.; replace transmitter and antenna.

696-CF-P-77, South Central Bell Telephone Company (KLK84), 530 South Buchanan Street, Lafayette, Louisiana. Lat. 30°13'32" N., Long. 92°01'00" W., C.P. to add frequencies 6286.2V and 6345.5V MHz toward New Iberia, Louisiana and replace antenna on frequencies 6226.9V and 6404.8V MHz toward New Iberia, Louisiana.

697-CF-P-77, Same (WHB42), 201 Center Street, New Iberia, Louisiana. Lat. 30°00'07" N., Long. 09°49'00" W., C.P. to add frequencies 6034.2H and 6093.5H MHz toward Lafayette, Louisiana and replace antenna on frequencies 5974.8H and 6152.8H MHz toward Lafayette, Louisiana.

707-CF-P-77, Same (KLU69), N O Broadmr, 3951 Erato Street, New Orleans, Louisiana. Lat. 29°57'14" N., Long. 90°05'54" W., C.P. to add frequency 6345.5H MHz toward Paradis, Louisiana.

708-CF-P-77, Same (KGF92), Paradis, 5 miles South, Paradis, Louisiana. Lat. 29°48'36" N., Long. 90°25'17" W., C.P. to add frequencies 6093.5V MHz toward N O Broadmr, La. and 6093.5H MHz toward Thibodaux, Louisiana.

709-CF-P-77, Same (KGG21), 204 Back Street, Thibodaux, Louisiana. Lat. 29°47'10" N., Long. 90°49'16" W., C.P. to add frequencies 6345.5V MHz toward Paradis, Louisiana and 6256.5V MHz toward Morgan City, Louisiana.

710-CF-P-77, Same (WAN71), Corner of 9th and Willard, Morgan City, Louisiana. Lat. 29°42'14" N., Long. 91°12'03" W., C.P. to add frequency 6004.5H MHz toward Thibodaux, Louisiana.

777-CF-P-77, Fay Grim d.b.a. Mississippi Valley Microwave (WBA 818), 2 Miles North of Virginia, Minnesota. Lat. 47°34'08" N., Long. 92°34'34" W. Construction permit to add 6137.9H MHz toward Gheen, Minnesota.

778-CF-P-77, Fay Grim d.b.a. Mississippi Valley Microwave (WBA 819), 1 Mile NW of Gheen, Minnesota. Lat. 47°58'41" N., Long. 92°49'44" W. Construction permit to add 6301.0V MHz toward Kabetogama, Minnesota.

779-CF-P-77, Fay Grim d.b.a. Mississippi Valley Microwave (WBA 820), 3 miles West of U.S. 53, Kabetogama, Minnesota. Lat. 48°21'16" N., Long. 93°00'39" W. Construction permit to add 6137.9H MHz toward South International Falls, Minnesota.

587-CF-P-77, Western Tele-Communications, Inc. (KPV 60), Greeno, 11.5 Miles SE of Laurel, Montana. Lat. 45°32'21" N., Long. 108°38'05" W. Construction permit to add 6167.6V MHz toward Billings (KULR), Montana.

647-CF-P-77, Penn Service Microwave Company, Inc. (WQQ 37), Wyoming Mtn., 4 miles SSE of Wilkes-Barre, Pennsylvania. Lat. 41°11'53" N., Long. 75°49'16" W. Construction permit to replace transmitter and increase output power 6078.6H MHz toward Mehoopany and Chestnut Hill, both in Pennsylvania.

CORRECTIONS

4462-CF-MP-76, RCA Global Communications, Inc., as Trustee (WBB 390), 5 miles NW of Huffman, Texas. This entry appearing in Public Notice of July 19, 1976 if corrected to show 6271.4V MHz toward Houston, Texas, on azimuth 211.2 degrees. All other particulars remain the same.

620-CF-MP-77, East Texas Transmission Company (KLH 74), 1.3 mile NW of Colfax, Texas. Lat. 32°31'29" N., Long. 95°44'50" W. This entry appearing in Public Notice of December 13, 1976, is corrected to show coordinates as above. All other particulars remain the same.

[FR Doc.77-1077 Filed 1-11-77;8:45 am]

FM AND TV TRANSLATOR APPLICATIONS READY AND AVAILABLE FOR PROCESSING

Adopted: December 29, 1976.

Released: January 5, 1977.

Notice is hereby given pursuant to §§ 1.572(c) and 1.573(d) of the Commission's rules, that on February 16, 1977, the TV and FM translator applications listed below will be considered as ready and available for processing. Pursuant to §§ 1.227(b)(1) and 1.519(b) of the Commission's rules, an application, in order to be considered with any application appearing on the attached list or with any other application on file by the close of business on February 15, 1977, which involves a conflict necessitating a hearing with any application on this list, must be substantially complete and submitted for filing at the offices of the Commission in Washington, D.C., by the close of business on February 15, 1977. The attention of prospective applicants is directed to the fact that some contemplated proposals may not be eligible for consideration with an application appearing in the attached Appendix by reason of conflicts between the listed applications and applications appearing in previous notices published pursuant to § 1.571(c) of the Commission's rules.

The attention of any party in interest desiring to file pleadings concerning any pending TV and FM translator application, pursuant to section 309(d)(1) of the Communications Act of 1934, as amended, is directed to § 1.580(i) of the Commission's rules for provisions governing the time for filing and other requirements relating to such pleadings.

FEDERAL COMMUNICATIONS COMMISSION,
VINCENT J. MULLINS,
Secretary.

UHF TV TRANSLATOR APPLICATIONS

BPTT-3133 (new), Allentown-Bethlehem area, Pennsylvania, NEP Communications, Inc. Req: Channel 19, 500-506 MHz, 100 watts. Primary: WNEP-TV, Scranton-Wilkes-Barre, Pa.

BPTT-3142 (new), Poughkeepsie, N.Y., Dutchess Community College. Req: Channel 54, 710-716 MHz, 1 watt. Primary: WMHT, Schenectady, N.Y.

BPTT-3143 (new), Valley Village of Wintergreen, Va., Wintergreen, a Virginia limited partnership. Req: Channel 55, 716-722 MHz, 10 watts. Primary: WTVR, Richmond, Va.

BPTT-3144 (new), Valley Village of Wintergreen, Va., Wintergreen, a Virginia limited partnership. Req: Channel 60, 746-752 MHz, 10 watts. Primary: WXEX, Richmond-Petersburg, Va.

BPTT-3145 (new), Valley Village of Wintergreen, Va., Wintergreen, a Virginia limited partnership. Req: Channel 67, 788-794 MHz, 10 watts. Primary: WVIR, Charlottesville, Va.

VHF TV TRANSLATOR APPLICATIONS

BMPTTV-883 (W10AS) Sabana Grande, Yauco, and San German, P.R., American Colonial Broadcasting Corp. Req: To delete Yauco, P.R. from present principal community.

BPTTV-5682 (K06EV), Mescalero, N. Mex., Apache Tribe of Mescalero. Req: To change frequency to Ch-12, 204-210 MHz and change primary TV station to KBIM-TV, Roswell, N. Mex.

BPTTV-5683 (K11IE), Mescalero, N. Mex., Apache Tribe of Mescalero. Req: To change frequency to Ch-5, 76-82 MHz and change primary TV station to KOB-TV, Albuquerque, N. Mex.

VHF TV TRANSLATOR APPLICATIONS

BPTTV-5684 (new), Mescalero Appache Reservation, N. Mex., Apache Tribe of Mescalero. Req: Channel 6, 82-88 MHz, 10 watts. Primary: KOB-TV, Albuquerque, N. Mex.

BPTTV-5685 (new), Mescalero Apache Reservation, N. Mex., Apache Tribe of Mescalero. Req: Channel 11, 198-204 MHz, 10 watts. Primary: KBIM-TV, Roswell, N. Mex.

BPTTV-5697 (K11DD), Green River, Utah, Green River City TV. Req: To change primary station to KTVX, Salt Lake City, Utah.

BPTTV-5704 (K13DB), Green River, Utah, Green River City TV. Rêq: To change primary TV station to KSL-TV, Salt Lake City, Utah.

BPTTV-5730 (K13LM), Lapwai, Idaho, Lapwai Valley TV Association. Req: To change primary TV station to KXLY-TV, Spokane, Wash.

BPTTV-5731 (K12BJ), Big Sandy, Mont., Big Sandy TV Club. Req: To change frequency to Ch-13, 210-216 MHz.

BPTTV-5732 (K07LJ), Eagle Butte, S. Dak., Men's Club, Inc. Req: To change primary TV station to KPRY-TV, Pierre, S. Dak.

BPTTV-5733 (K10FX), NW Pacific Heights of Sopkane, Wash., Spokane Television, Inc. Req: To change frequency to Ch-9, 186-192 MHz.

BPTTV-5734 (K07NX), Camp Lonely, Alaska, Northern Television, Inc. Req: To add KTVF, Fairbanks, Alaska to present primary TV stations.

BPTTV-5735 (K10JU), Atlantic Richfield Base Camp and Prudhoe Bay, Alaska, Northern Television, Inc. Req: To add KTVF, Fairbanks, Alaska, to present primary TV stations.

[FR Doc.77-1076 Filed 1-11-76;8:45 am]

[Docket No. 21016; File No. BPH-9487; FCC 76-1124]

MARSHFIELD BROADCASTING COMPANY, INC.

Memorandum Opinion and Order Designating Application for Hearing on Stated Issues

Adopted: December 7, 1976.

Released: January 5, 1977.

In re application of Marshfield Broadcasting Company, Inc., Marshfield, Massachusetts, requests: 95.9 MHz, 3 kW, 275 feet, Docket No. 21016, File No. BPH-9487, for construction permit.

1. The Commission has before it for consideration: (i) the above-captioned application, as amended, (ii) a request by Marshfield Broadcasting Company, Inc. (Marshfield) for a waiver of § 73.207 of the Commission's rules, (iii) a petition to deny the above application, as supplemented, filed on behalf of Knight Communications Corporation, licensee of radio station WSRS, Worcester, Massachusetts, and (iv) opposition to the petition to deny.

2. Marshfield proposes to operate on 95.9 megahertz in Marshfield, Massachusetts at a transmitter site location that is two miles short-spaced with the first adjacent channel operation of WSRS.[1] Accordingly, Marshfield has requested a waiver of § 73.207 of the Commission's rules. Under similar circumstances, the Commission and its staff acting under delegated authority have granted waivers for short-spacing of this magnitude on numerous occasions. However, WSRS has raised an objection to the grant of the Marshfield application, and section 316 (a) of the Communications Act of 1934, as amended, provides that a modification of any station license cannot become final until the holder of the license is given reasonable opportunity to show in hearing why such modification should not be permitted. The Commission's rules define interference to FM stations solely on the basis of minimum assignment and station separation requirements and the rules with respect to maximum power and antenna height. Section 73.209(b). Accordingly, since the Marshfield proposal is short-spaced with WSRS, and WSRS has raised an objection to the grant of the Marshfield application, a hearing is required "FCC v. National

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[1] WSRS is a class B station, and Marshfield proposes a class A station. Therefore, § 73.207 of the Commission's rules requires a 65-mile separation. The Marshfield proposal is also short-spaced with WBRU(FM), Providence, Rhode Island. WBRU(FM) is a class A station and Marshfield proposes a class A station. Therefore, § 73.207 of the Commission's rules requires a 40-mile separation. At the time the Marshfield application was filed, WBRU(FM) had a timely filed application (BPH-9381) before the Commission to move its transmitter site, and the two proposals were two miles short-spaced with respect to each other. Marshfield notified WBRU(FM) that it had no objection to the granting of the WBRU(FM) application and the WBRU (FM) application was granted on June 8, 1976. The WBRU(FM) grant was subject to the condition that the permittee accept any short-spacing which may result from the operation of an FM broadcast station operating on channel 240A at Marshfield, Massachusetts, with a transmitter and antenna located at a distance of not less than 38 miles from the transmitter site specified in WBRU's application. Marshfield has amended its application and has reduced the short-spacing to WBRU(FM) to 1 mile. Accordingly, the request for waiver of § 73.207 of the Commission's rules with respect to WBRU (FM) will be granted.

Broadcasting Company, Inc. (KOA)." 319 U.S. 239 (1943).

3. Since no determination has yet been reached on whether the antenna proposed by Marshfield would constitute a menace to air navigation, an issue on this matter will be specified.

4. Except as indicated by the issues specified below, the applicant is qualified to construct and operate as proposed. However, the Commission is unable to make the statutory finding that a grant of the above application would serve the public interest, convenience and necessity, and is of the opinion that the application must be designated for hearing on the issues specified below.

5. *It is ordered*, That pursuant to section 309(e) of the Communications Act of 1934, as amended, the application is designated for hearing, at a time and place to be specified in a subsequent order, upon the following issues:

1. To determine whether there is a reasonable possibility that the tower height and location proposed by Marshfield would constitute a menace to air navigation.

2. To determine the nature and extent of the applicant's violation of § 73.207 of the Commission's rules, and whether circumstances exist which warrant a waiver of that rule.

3. To determine, in light of the evidence adduced pursuant to the foregoing issue, whether a grant of the application would serve the public interest, convenience, and necessity.

6. *It is further ordered*, That Knight Communications Corporation, licensee of WSRS, Worcester, Massachusetts and the Federal Aviation Administration are made parties to the proceeding.

7. *It is further ordered*, That the petition to deny by Knight Communications Corporation is granted to the extent indicated above and is denied in all other respects.

8. *It is further ordered*, That the request by Marshfield Broadcasting Company, Inc. for waiver of § 73.207 of the Commission's rules with respect to the short-spacing with WBRU is granted.

9. *It is further ordered*, That to avail themselves of the opportunity to be heard, the applicant and parties respondent herein, pursuant to § 1.221(c) of the Commission's rules, in person or by attorney, shall within twenty (20) days of the mailing of this order, file with the Commission in triplicate, a written appearance stating an intention to appear on the date fixed for the hearing and present evidence on the issues specified in this order.

10. *It is further ordered*, That the applicant herein shall pursuant to section 311(a)(2) of the Communications Act of 1934, as amended, and § 1.594 of the Commission's rules, give notice of the hearing within the time and in the manner prescribed in such rule, and shall advise the Commission of the publication of such notice as required by § 1.594(g) of the rules.

FEDERAL COMMUNICATIONS COMMISSION,[2]
VINCENT J. MULLINS,
Secretary.

[FR Doc.77-1075 Filed 1-11-77;8:45 am]

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[2] Commissioner Quello absent.

[FCC 76-1169; RM-2614; RM-2725]

AMERICAN BROADCASTING COMPANIES, INC. AND COMMUNITY ANTENNA TELEVISION ASSOCIATION

Technical Licensing Standards for Domestic Satellite Facilities

Adopted: December 15, 1976.

Released: January 7, 1977.

In the Matters of American Broadcasting Companies, Inc., petition for rule making to consider public policy questions relating to the establishment of a basic overall design for the development of domestic communications satellite services; and Community Antenna Television Association, petition for rule making or for declaratory ruling to permit the authorization of receive-only small earth station antennas.

INTRODUCTION

1. The Commission has under consideration the two petitions captioned above that were filed by the American Broadcasting Companies, Inc. (ABC) and the Community Antenna Television Association (CATA) on October 20, 1975 and June 24, 1976, respectively.

2. Public notice of the ABC Petition, RM-2614, was given on November 25, 1975 pursuant to § 1.403 of the Rules and Regulations. Comments were filed by American Telephone and Telegraph Company (AT&T), Cable Satellite Access Entity (CSAE), Columbia Broadcasting System (CBS), Eastern Microwave, Inc. (Eastern), General Telephone and Electronics Service Corporation (GTESC), Home Box Office, Inc. (HBO), Hughes Aircraft Company (Hughes), National Association of Broadcasters (NAB), National Cable Television Association (NCTA), Network Affiliates Association (Network Affiliates) and Public Broadcasting Service (PBS). Reply comments were filed by ABC and AT&T.

3. Public notice of the CATA Petition, RM-2725 was given on July 26, 1976. Comments were filed by ABC, Antennas for Communications, Inc. (AFC), GTESC, HBO, Hughes, ITT Space Communications, Inc. (ITTSC), Microdyne Corporation (Microdyne), NAB, NCTA, Prodelin, Inc. (Prodelin) and Western Union Telegraph Company (Western Union). Reply comments were filed by ABC, AT&T, CATA, HBO, and NCTA[1]. A statement was also submitted on behalf of eight cable television system operators and companies[2] (Referred to as the Joint Statement below).

4. In essence, the two petitions captioned above question the adequacy and appropriateness of our current technical licensing standards for domestic satellite facilities. In RM-2614, the petitioner apparently believes that our current standards are insufficient to insure availability to future users of domestic satellite capacity in the 4 and 6 GHz bands, particularly if small diameter (i.e. less than 9 meters) antennas were to be routinely authorized by the Commission. In contrast, the petitioner in RM-2725 believes that our current licensing policies unduly restrict the availability of satellite communications to many users who have immediate requirements for such services which can be met by economical earth station facilities without adversely affecting efficient orbit and spectrum utilization.

5. It will be necessary to treat these two petitions concurrently in view of the apparently conflicting nature of the relief sought. After summarizing the petitions and the comments filed by various parties on the issues raised by them, we will review our current technical licensing policies with respect to their impact on orbit and spectrum utilization. In light of our general domestic satellite policy objectives, we then find that these standards are sufficient to reasonably assure the availability of satellite communications to potential future users. Furthermore, with certain clarifications and conditions, these standards do not preclude the licensing of small, economical earth station antennas when proper showings are made to demonstrate that the use of such facilities will not have an adverse impact on efficient orbit and spectrum utilization. Finally, we will treat the specific case of small diameter receive-only earth stations to be used by cable television systems to receive program material distributed by domestic satellites.

THE ABC PETITION: RM-2614

6. In its petition, ABC requests the Commission to institute a rule making proceeding to establish a basic overall design for the development of those frequency bands allocated for domestic satellite services, including particularly the 4/6 and 12/14 GHz frequency bands[3], and amend its rules and policies

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[1] The requests of CATA, Hughes and Western Union for acceptance of late filed pleadings is hereby granted.

[2] Citrus County Cablevision, Inc., Colony Communications, Inc., Comcast Corporation, Connersville Cable, Cox Cable Communications, Inc., Sammons Communications, Inc., TM Communications Company and Tri-County Cable. Permission is hereby granted for the late submission of this document.

[3] In this decision, the following abbreviations are used for the frequency bands indicated below:

4 GHz	3700-4200 MHz
6 GHz	5925-6425 MHz
12 GHz	11.7-12.2 GHz
14 GHz	14.0-14.5 GHz

accordingly. ABC submits that the commencement of such a rule making proceeding, and consideration of the critical public policy questions involved, are necessary to assure the usage of the 4/6 and 12/14 GHz bands in a way that will achieve the most efficient and effective spectrum utilization, taking into account not only the needs of the broadcasting services, but the entire range of present and foreseeable satellite requirements. Specifically, ABC urges that the following issues be made the subject of its proposed rule making proceeding:

(a) The extent to which sharing of satellite and terrestrial services in the 4/6 GHz bands dictates earth station antenna and satellite space station characteristics;

(b) The extent to which such characteristics may adversely affect efficient utilization of the frequency spectrum in the 4/6 GHz bands and the manner in which such efficiency may be improved in these bands;

(c) The impact of present and impending satellite space and earth station proposals upon spectrum efficiency in these bands;

(d) The extent to which satellite services in higher frequency bands (specifically 12/14 GHz) can be utilized to ameliorate such adverse effects on spectrum efficiency in the 4/6 GHz bands;

(e) The characteristics of system operations (e.g., antenna performance capabilities, etc.) which are best suited—from a spectrum efficiency standpoint—to the various satellite bands;

(f) The extent to which "site sharing" or the establishment of satellite ground station "farms" are necessary or should be required and, if so, under what circumstances; and

(g) In light of the foregoing, what criteria and regulations should be established to govern the use of the 4/6 and 12/14 GHz bands and to be incorporated in the applicable rules of the Commission.

7. ABC believes that unless more definitive licensing and allocation policies and guidelines are adopted, available satellite capacity in the 4/6 GHz bands would be depleted within the next five years on what it characterizes a "first come, first served basis." ABC bases this conclusion on the proliferation of authorized and proposed domestic satellite earth station facilities, a market analysis submitted in connection with a domestic satellite system application submitted in 1971, and a comparison of AT&T's projected network master group mile requirements to available orbital arc at 4/6 GHz. We do not find that these arguments support the conclusion reached by ABC. Petitioner does not believe adequate attention is being paid to basic principles of spectrum efficiency and management and that ABC and other broadcast entities may lose the opportunity to satisfy their program transmission needs in the 4/6 GHz bands, in part because of the authorization of facilities under substandard technical and operational criteria.[4] ABC believes that such a situation would have serious adverse effects on the broadcasting industry. ABC believes the Commission should establish appropriate policies and guidelines now in a general, overall context before major commitments are made to avoid or minimize the consequencies of haphazard, inefficient spectrum uses. In its view, appropriate technical and operational criteria should be established now to achieve the fullest use of the 4/6 GHz bands and preclude the proliferation of substandard use of the bands. ABC believes it necessary at this time to evaluate satellite requirements in terms of which are best suited for the 4/6 bands and those best suited for other bands, e.g., 12/14 GHz, since the 12/14 GHz bands are not presently committed to any particular use.[5] ABC asks that the 4/6 GHz bands be reserved for domestic satellite services utilizing only large, high-gain antennas 9 meters or larger, with all other services assigned to the 12/14 GHz bands.

8. AT&T supports the petition for Rule Making by ABC and contends that a proliferation of small earth terminals in the 4/6 GHz bands would have an adverse effect on terrestrial services and orbit utilization. Operation of numerous small earth terminals in the 4/6 GHz bands can, in AT&T's view, only accelerate such exhaustion of capacity to the detriment of important transmission needs. Such proliferation would have an adverse effect on terrestrial services, in particular high density radio-relay systems, which share the use of the 4/6 GHz bands with domestic satellite systems. AT&T is concerned that operation of earth stations in the 4/6 GHz bands creates a zone around each station where the operation of a radio-relay system is effectively prohibited or constrained because of electrical interference. AT&T further states that 4 GHz receive only terminals impose significant constraints on growth as well as blocking construction of new routes and the evolution to new and more efficient technology on such routes. Also, such terminals create administrative coordination problems in connection with existing systems. AT&T suggests that small earth terminals are more suitable in bands other than 4/6 GHz.

9. CSAE supports the ABC petition as to examination of satellite allocation principles, i.e. "* * * allocation principles (which) would require the utilization of the 4 GHz band (1) on the basis of engineering and operational criteria—principally those relating to orbital spacing (4 degrees) and ground station efficiency and size (9 meter receiving antennas) * * *" However, CSAE does not ascribe to the particular proposals advanced by ABC as now or in the future accurately defining the public interest considerations which may or will guide the Commission in establishing satellite allocation principles to assure optimum spectrum efficiency and management. CSAE shows concern that the ABC Petition could result in a rule making which, if instituted solely according to the standards upon which the ABC Petition is based, could have a limiting effect on the marriage of satellite and cable technology as applied to communications service to the public. CSAE disputes the ABC Petition that evidence exists which supports the proposition that the 4/6 GHz band should be restricted to uses which can be met by operations utilizing large antennas (i.e., greater than 9 meters) with close orbital spacing, and assigning other services to the 12/14 GHz band. CSAE states that it recognizes that the Commission must first establish basic system parameters such as the degree of protection from interference to be afforded, where antenna size is only one parameter in the equation of ensuring quality performance. CSAE also submits that the Commission must recognize that ABC's Petition may well have, for its own purposes, drawn the scope of the proceeding to be instituted much too narrowly and for reasons not wholly germane to the broadest possible public interest considerations.

10. CBS states in support of the ABC Petition that the Petition warns that if procedures designed specifically to reflect fundamental principles of efficient spectrum utilization and planned spectrum management are not adopted, the result may well be a situation wherein the spectrum available in the 4/6 GHz bands for satellite communications is licensed in some substantial measure to a conglomeration of uses which results in less than optimum utilization of the available 4/6 GHz spectrum and orbit resources. CBS further states that the consequences of not adopting such procedures soon would be to foreclose the broadcasting industry in the not too distant future from the use of the 4/6 GHz bands to satisfy its basic requirements, i.e. programming distribution. However, CBS believes it is now premature to endorse any specific criteria that restricts the use of the 4/6 GHz band only to those antennas having a diameter of 9 meters or larger as suggested by the ABC Petition. CBS does agree with the position expressed in the ABC Petition that some or all of the services now being provided on the 4/6 GHz bands may be more appropriately developed in the 12/14 GHz bands.

11. Eastern supports the ABC Petition and states that the particular concern to ABC is the proliferation of applications for receive-only earth stations with antennas smaller than 10 meters in diameter. Eastern believes that no earth stations with antennas smaller than 10 meters in diameter should be allowed until the proposed rule making is completed and it is determined that such use is feasible. Also, Eastern believes that use of communication satellites be related to the reliability and economics of the services being transmitted. In consequence, broadcast and program services

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[4] ABC appears to equate substandard technical and operational criteria and the use of antennas less than 9 meters in diameter.

[5] With respect to the 12 GHz band, it should be noted that the Commission recently released its *Report and Order* (FCC 76-677) in Docket No. 20468 concerning preparations for the 1977 World Administrative Radio Conference for planning for the Broadcasting-Satellite Service in this band. This band is allocated to both the Fixed and Broadcasting Satellite Services on a co-equal basis in this country.

for cable television should be accorded the most reliable and cost efficient service in the 4/6 GHz band. Furthermore, Eastern states that services needing only occasional time, or which can tolerate less reliability or signal quality, should be assigned to the 12/14 GHz band.

12. GTESC supports the ABC Petition but submits that the proceeding should be focused on the subject of small earth stations, and should include issues delineated as follows:

(a) Impact of earth station systems using antennas less than 30 feet in diameter with regard to suitable orbital locations, efficient use of spectrum assuming the employment for small stations of the 4/6 GHz band and/or the 12/14 GHz band, and increased costs and additional technical problems created for large earth station systems or terrestrial operations;

(b) In view of the above impact, under what circumstances would small earth stations be justified.

(c) Assuming that such a program is justified, optimize a system design based on the technical performance satisfying the system requirements, system economics including satellite costs, earth station costs, orbital efficiency and spectrum efficiency.

(d) In light of the foregoing, what criteria and regulations should be established to govern small earth stations.

13. NAB supports the ABC Petition and identifies the issues of special inquiry as being the same as presented in the ABC Petition.

14. The Network Affiliates support the ABC Petition to assure that the frequency bands allocated for domestic satellite services will be used most efficiently and in a manner best able to achieve effective spectrum utilization since domestic communication satellite services are important to the Network Affiliates as a potential means of high quality program distribution. The Network Affiliates not only support ABC's petition for a design covering the 4/6 and 12/14 GHz bands, but wishes to underscore the need for an overall design covering all frequency bands, including the 6625-7125 MHz band. The Network Affiliates believe that receive-only antennas should meet a defined performance standard with the least possible interference rather than size standards as proposed by the ABC Petition.

15. HBO opposes the ABC Petition, pointing to the Commission's Declaratory Ruling in *UA-Columbia Cablevision, Inc.*, 55 FCC 2d 656 (1975), where it stated that it would not authorize use of:

> "small earth terminals if the applicant cannot demonstrate that the satisfactory operations of such small earth terminals require satellite orbital separations no greater than those required for the satisfactory operations of larger earth station antennas and that no other constraints are placed on the operation of domestic satellites as a result of the operations of such small earth terminals."

HBO further states that many more cable systems would be interested in obtaining its services if they could utilize low cost small earth terminals.[6] In addition, HBO states that "a receive-only earth terminal utilizing a small antenna, such as one which has a diameter of 4.5 meters, will obtain the same quality signal as a 10 meter antenna if the unit is used with a high quality low noise amplifier" and will not require higher satellite EIRP's for operation to small earth terminals as claimed in the ABC Petition. HBO concludes that ABC filed its Petition in response to the Commission's Second Notice of Inquiry in Docket No. 20271, FCC 75-990, released September 19, 1975, and that ABC's Petition is superfluous since a detailed analysis of domestic satellite needs is implied in Docket No. 20271.

16. Hughes opposes the ABC Petition arguing that it would be inadvisable for the Commission to institute the proposed rule making procedure because (a) such rule making would defeat the objectives of the Commission as previously set forth;[7] (b) there is no present need for such rule making, and (c) any rule making proceedings at this time would have an adverse effect on the growth of the industry. Furthermore, Hughes believes that the Commission should retain total flexibility in controlling the use of satellite technology for domestic communications and not try to adopt special restricting rules until future experience and circumstances dictate.

17. NCTA opposes the ABC Petition because it believes that questions regarding the regulation of the design of ground station installation must be avoided and that proper engineering design and economic investment should be the determinants of ground station configuration. To do otherwise would remove the necessary flexibility from the development of nonbroadcast services utilizing satellites. This, according to NCTA, appears to be what ABC has in mind. By suggesting restrictions on antenna size etc., ABC would reserve the use of the 4/6 GHz band to broadcast network uses and shift other users of satellite services, such as cable television, to the 12/14 GHz band. Although NCTA concurs that there will be increasing congestion in the 4/6 GHz band, it does not believe that regulations should be adopted leaving the band solely for broadcast network uses. NCTA suggests that the correct questions to be addressed are in the area surrounding the basic transmission system and not ground station design and should be addressed in Docket No. 20271. Insofar as ABC desires Commission examination of satellite allocation principles, NCTA is fully supportive.

18. PBS does not take any position on the overall question of whether or not an inquiry of the nature suggested by the ABC Petition need be or should be undertaken by the Commission at this time. PBS distributes national television programming to member noncommercial educational television stations throughout the United States and its territories and thus shares with ABC an interest in and concern for the development of satellite methods of program distribution. However, PBS does point out that a number of statements in the ABC Petition pertaining to PBS are factually inaccurate and that the Petition is too simplistic in general. PBS states that, contrary to the statemens made by ABC in its petition, it has not applied for a nationwide system using 26-foot (8 meter) antennas[8] and that its proposed system would not interfere with maximum usage of the 4/6 GHz band nor affect plans for orbital spacing of as little as 4°.

The CATA Petition: RM-2725

19. The CATA, a trade association representing over 500 community antenna television systems, petitions the Commission to institute Rulemaking or to issue a Decalartory Ruling to amend its application standards for satellite earth station receive-only antennas to permit the construction of "small earth stations" less than nine meters in diameter. CATA contends that the present processing standard set forth in the Commission's First Report and Order in Docket 16495, 22 FCC 2d 86, 136 (1970), which requires receive-only antennas of not less than 9 meters in diameter, results in the denial of satellite service to many small and medium sized communities. CATA states that the nine meter standard does not benefit the public and that the only reason for its imposition appears to be administrative convenience. The elimination of this standard would not only allow many more Americans to receive the benefits of satellite service, but would also encourage the development of cable television in many areas. Furthermore, CATV states that it would not, in any way, foreclose the Commission's options with regard to satellite spacing in geostationary orbits and that the rationale for the nine meter standard apparently is that the Commission fears that communications satellites, if placed in an efficient geostationary orbit with 4½, 4 or even possibly 3½ degree spacing may degrade signals received by earth station terminals of less than nine meters in diameter. CATA states that it, as well as others, has conducted tests which indicate that receive-only earth terminals of substantially smaller size (and consequently less costly, allowing for their economical use in small communities) can receive signals that are totally adequate for public use. Thus, a situation exists where theoretical fears result in denial of service to the public even though the free marketplace would be willing to assume the risk of constructing and using equipment with the full, forewarned knowledge that actions by the Commission, in the future regarding satellite orbital spacing, might render the equipment being used ob-

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[6] HBO states that the total cost of a small earth terminal utilizing a high quality low noise amplifier would be considerably less than an earth station utilizing an antenna with a diameter in excess of 9 meters.

[7] *Second Report and Order* in Docket No. 16495, 35 FCC 2d 844 (1972).

[8] PBS has recently filed for the first 13 earth terminals for a nationwide system using 10 meter receive-only stations and 11 meter transmit and receive stations.

solete. CATA suggests that there is another way for the Commission to avoid future problems without denying service to the public. That is, the Commisison can simply state to all applicants proposing to use receive-only equipment of less than nine meters in diameter that they (the applicants) are asusming the risk that future developments will, or may, result in intolerable interference levels received by small diameter antennas. Furthermore, the Commission can put all parties on notice that it will not accept or consider, in any future decisions on satellite orbital spacing, the argument of those using small antennas that undue interference will be created. CATA states that no evidence has been presented that use of small diameter antennas by cable television receive-only earth stations will adversely affect orbit and spectrum utilization by a variety of services whereas the technical data submitted in this proceeding totally support CATA's position that the use of such small diameter antennas will in no way adversely affect orbital spacing or efficient spectrum utilization. CATA further states that the 4 degree orbit spacing is required by technical constraints imposed by earth station antennas with diameters larger than 10 meters. With respect to potential terrestrial interference problems, CATA argues that small antennas can more effectively use natural and artificial shielding more economically than large antennas and can be more easily moved. To counter the argument against proliferation of small earth station, CATA states that there are the opponents who fear administrative problems of coordination and those who are simply trying to delay competition such as ABC and GTESC.

20. ABC states that the procedural basis for the issuance of a declaratory ruling which, as the CATA Petition acknowledges would constitute the recision of a substantive rule, is not provided for in either the Commission's Rules or the Administrative Procedure Act (5 U.S.C. 551 et seq.) and therefore the request for a declaratory ruling should be denied. The alternative request for a separate and limited rule making to consider the "small terminal" issue is unwarranted and inadequate. In the pending Commission proceedings in Docket 20271, issues and sub-issues relating to small antenna earth stations have already been raised by the Second Notice of Inquiry (FCC 75-990) in the context of preparation for the 1979 World Administrative Radio Conference (WARC). Such issues are also raised directly in RM-2614 wherein ABC has requested that the Commission institute a proceeding looking toward the adoption of a comprehensive domestic satellite plan reflecting sound spectrum and orbit utilization principles. The complex technical and policy questions raised by the "small terminal" issue should be resolved in the ABC Petition, RM-2614, and not in the summary manner CATA proposes. ABC is also encouraged by the Commission's recent statement in its Report and Order, supra, in Docket No. 20468 that "Any rulemaking on the use of domestic satellite system will include the subject of small earth terminals and many other complex topics."[*]

21. GTESC states that CATA is now asking the Commission to initiate a proceeding involving the small earth station question, but with a narrow focus, examining only the points of interest to CATA and its membership. However, GTESC suggests that the technical and economic problems involved should be looked at in the total context since all the problem elements are interrelated (earth station cost, spectrum efficiency, orbital efficiency, impact on terrestrial facilities, etc.) and that a far better approach would be for the Commission to institute an inquiry embracing the entire subject of small earth stations (as GTE suggested in RM-2614). Accordingly, GTESC suggests that the issues for such a proceeding are delineated as follows:

A. What would be the impact of implementing small earth station systems (i.e., antennas less than thirty feet in diameter) with regard to:

1. Availability of suitable orbital locations,

2. Efficient use of the spectrum (4/6 GHz band and 12/14 GHz band),

3. Increase in costs and additional technical problems created for large earth station systems or terrestrial operations.

B. In view of the above impact, under what circumstances would small earth station systems be justified.

C. Assuming that such a program is justified, what system design would optimize the following elements:

1. System technical performance in relation to system requirements,

2. System economics, including: (*a*) Satellite costs, (*b*) Earth station costs, (*c*) Orbital efficiency, and (*d*) Spectrum efficiency.

D. In light of the foregoing, what criteria and regulations should be established to govern small earth stations. GTE concludes that the Commission should initiate a general inquiry on the subject of small earth stations as proposed in RM-2614.

22. NAB points to the interests of its members not only as users of the spectrum, but also as potential users of satellite services. NAB urges the Commission not to retreat from the present nine meter antenna standard for use in the 4/6 GHz band which is consistent with NAB's position in support of the ABC Petition.

23. NCTA proposes that the Commission by declaratory ruling permit the licensing of small receiving terminals owned and operated by cable system operators and make the licensing of such terminals optional. NCTA alleges that the use of a satellite receiver impinges on no one else and the quality of the engineering used in the design and installation influences the quality of the user performance only. By operating the receiving installation unlicensed, the operator is subject to any interference that may develop from other encroachments. Should the installation be licensed, then it should be afforded the same degree of protection as now provided by the existing Commission practices. Departure from the traditional 9 meter antenna size impinges on no one else and has no affect on reserved, unassigned orbital locations under the present policies. NCTA submits that the selection of the 9 meter antenna as a standard was a relatively arbitrary choice and is not applicable to distribution systems such as satellite/cable operations. In reply to those parties claiming a potentially adverse impact on the development of terrestrial facilities in these bands that might result from a proliferation of small antennas, NCTA points out that these bands are shared on a co-equal basis by both services and argues that it would be unfair to use such an argument to block the development of domestic satellite communications.

24. In their Joint Statement, the cable companies state their belief that "the marriage of domestic satellite service and cable television's multi-channel facilities provides a most auspicious union for increasing the diversity and usefulness of future interstate communications." In view of the dynamic nature of this field, they believe the Commission should apply highly flexible and readily responsive policies and procedures to assure the most rapid development of new services. Since smaller antennas hold the promise of lower cost access to domestic satellite service, increasing the utility of such services in general, prompt and favorable action should be taken on the CATA petition.

25. HBO also urges the Commission to immediately issue a declaratory ruling that small diameter antennas meeting certain technical standards be routinely processed and granted without the need for any special showings. It suggests that a declaratory ruling is needed to reaffirm the Commission's existing policy that performance, not antenna size, is the key to approval of earth station applications, and to recognize that the Commission's performance standards can be met by television receive-only earth stations utilizing antennas smaller than nine meters thus removing the uncertainty concerning the "strong showing" required before such small earth stations will be licensed. HBO further states that the CATA petition is not requesting a new substantive rule for antenna performance nor does the small receive-only earth station pose greater restrictions on orbit utilization than those now posed by nine meter or greater antennas. HBO submits that its attached technical analysis of small antennas demonstrates that the use of such facilities would have no adverse impact on orbital spacing, spectrum conservation or the growth of other satellite services. With the installation of smaller, low cost antennas, additional programming can be economically and efficiently delivered to millions of additional cable system subscribers beyond those presently

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[*] However, the Commission never intended this statement to imply that rulemaking is needed before such facilities can be authorized by the Commission.

served through 10 meter or larger antennas. In addition, HBO argues that smaller antennas can be more easily and less expensively shielded from terrestrial interferences, as well as being more easily locatable at cable system head-end sites, with beneficial results on terrestrial station frequency usage. Smaller antennas would also have less of an impact on the environment.

26. The comments of AFC, Hughes, Microdyne and Prodelin consist primarily of technical analyses intended to demonstrate that use of smaller antennas would not have an adverse impact on orbital utilization. Western Union also supports CATA's request for a declaratory ruling to accord normal processing of applications for small earth stations if the antenna conforms to the antenna performance standards of § 25.209 of the Rules and Regulations and does not infringe on the Commission's guidelines for maintaining a 4 degree orbit spacing between adjacent satellites located in the geostationary arc. Western Union comments that the filings submitted by ABC, AT&T, GTE and NAB are not based upon technical analysis or factual proof, but are premised upon errors and misunderstandings.

27. AT&T in its reply comments fully supports the positions taken by ABC, GTE and NAB and states that a rulemaking limited only to the authorizing of receive-only small earth terminals would be unwarranted and inadequate. AT&T suggests that rather than conducting a limited proceeding, the CATA matter should be considered only as a part of a comprehensive rulemaking proceeding designed to achieve the most effective utilization of the spectrum and orbit, including consideration with regard to the terrestrial services which are authorized in the 4 and 6 GHz and other frequency bands, and that there should be an overall inquiry into domestic satellite allocation policies before earth stations using small antennas are authorized.

DISCUSSION

28. Although the first domestic satellite service in this country was begun in late December 1973, it has only been in the last year that we have seen a rapid growth in the number of earth stations placed into operation. Apart from the Alaska bush stations, this growth has been generated primarily by the expanding use of domestic satellites for program distribution services. Thus, since *Florida Cablevision*, 54 FCC 2d 881 (1975), over a hundred receive-only earth stations have been authorized to cable television system operators, broadcasters and local carriers for program distribution purposes.

29. All of these receive-only earth stations authorized to date employ antennas 9 meters or more in diameter. ABC and the parties supporting its petition urge us to exclude smaller antennas from operations in the 4 and 6 GHz bands which are the only bands in which service is presently available from the domestic satellites now in orbit. They contend that the authorization of such smaller antennas would lead to inefficiencies in the use of the available orbit and spectrum in these bands to the point where potential users may not be able in the future to implement systems employing 10 meter or larger antennas in the 4 and 6 GHz bands. As a result, they contend that earth stations with antennas less than 9 meters in diameter should be authorized for operations only in other frequency bands, i.e. the 12 and 14 GHz bands.

30. CATA and the parties supporting its petition contend that small antennas do not necessarily result in inefficient use of the orbit and spectrum. In support of this position, they point to various technical analyses purporting to demonstrate that satisfactory receive-only operations with antennas as small as 4.5 meters in diameter do not require satellite orbital separations greater than those needed for 9 meter or larger antennas. While such facilities may not be capable of producing as high a quality of signal as larger antennas, they argue that the use of smaller antennas is still acceptable for public use. In view of the anticipated lower costs of such facilities, they contend that the public interest requires the authorization of such small antenna facilities in order to make the benefits of domestic satellite communications as widely available as possible, particularly in cases where the cost of larger antenna facilities can not be economically justified.

31. As we will explain below, a rule making proceeding is not needed to resolve this controversy. With certain clarifications, the domestic satellite policies we adopted in the course of the proceedings in Docket No. 16495 provide a clear and sound basis on which to treat the various issues raised by the parties in their filings on the two petitions under consideration here.[10] Accordingly, we will first review the technical licensing policies we have established for domestic satellite facilities. Following this review, we will then turn to the specific requests of ABC and CATA.

TECHNICAL LICENSING POLICIES

32. In our First Report and Order in Docket No. 16495, 22 FCC 2d 86 (1970), we decided to accept applications for domestic satellite facilities from multiple entities. We stated that:

> [r]ather than attempting to prescribe arrangements for an initial program we believe it preferable to permit potential applicants to take the initiative in submitting concrete proposals for the Commission's consideration. 22 FCC 2d at 93.

We also set forth general procedures for the filing of such applications and certain technical criteria in Appendix D to that order, stating that:

> Pending the adoption of forms and fees and the promulgation of rules governing technical standards for domestic communication-satellite facilities, applications should be filed in accordance with the procedure and technical criteria set forth below and in the attached Appendix D. Applicants making proposals under the technical criteria specified herein may also submit alternative proposals, reflecting what would be requested if there were different technical constraints and showing how the alternative would better serve the public interest. 22 FCC 2d at 98.

Of direct concern here are the following technical criteria set out in Appendix D which are intended to insure that domestic satellite systems would be designed from the outset to achieve reasonably small inter-satellite orbital separations needed to accommodate multiple systems (22 FCC 2d at 135–136):

> (a) Applicant shall consider and submit details regarding the selection of the orbital longitude(s) for its proposed system. In such showing, applicant shall discuss and where appropriate determine the probability of interference between its proposed satellite system and other satellite systems which are either established or proposed systems. The effect of the applicant's proposed system on the overall utilization and management of the available orbital space should be considered and discussed in general and in specifics as to the minimum separation of satellites, use of frequencies, orthogonal feeds, polarization, station keeping, inclination, or other suitable standards that may be required in the future. Broad guidelines such as a 5 degree minimum separation between satellites and excursions in both longitude and latitude of ±0.5 degrees should be observed until more definitive standards can be determined.
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> (b) The [earth station] transmitting antenna directivity in the plane of the geostationary orbit shall, as a minimum, be comparable to that of a parabolic antenna with a diameter of 9 meters operating at 6 GHz, and have a side lobe suppression of at least 25 dB.
>
> (c) The [earth station] receiving antenna directivity in the plane of the geostationary orbit shall, as a minimum, be comparable to that of a parabolic antenna with a diameter of 9 meters operating at 4 GHz, and have a side lobe suppression of at least 25 dB, unless a waiver has been granted.[11]

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[10] With respect to the references of several parties to Docket 20271, it should be remembered that the question of small earth terminals was raised in that proceeding only in the context of long term requirements and how to best satisfy those requirements as part of our preparations for the 1979 GWARC. Questions relating to the use of small antennas in present or proposed domestic satellite systems were excluded from the proceedings in Docket No. 20271.

[11] Antenna directivity standards applicable to all earth station antennas have subsequently been specified in Section 25.209 of the Rules and Regulations. See Report and Order in Docket No. 19495, 40 FCC 2d 395 (1973). However, that proceeding was limited to questions dealing only with frequency coordination between earth station and terrestrial stations in shared frequency bands and did not contemplate resolving issues relating to inter-satellite interference or orbital separation. Thus, while we declined to adopt rule restrictions on minimum antenna size in that proceeding on the basis of earth station-terrestrial considerations, we did not supersede the 9 meter antenna size criterion specified in Appendix D to insure reasonable orbital spacings between domestic satellites in view of the close relationship between antenna size and inter-satellite interference levels. But the quoted antenna directivity and sidelobe suppression standards quoted above are no longer applicable in light of § 25.209 of the Rules and Regulations which now limits sidelobe levels in terms of a formula that is independent of antenna size.

The purpose of these criteria was to establish a reasonable compromise between economical earth station facilities and efficient orbit and spectrum usage. Thus, we did not intend to require very high cost INTELSAT standard 30 meter antenna facilities for domestic satellite operations, even though small orbital separations were possible if only such facilities were to be authorized. On the other hand, while much smaller antennas might have been desirable for their low costs, we did not believe the overall public interest would be served by the large orbital separations that seemed to be required to accommodate such facilities and the resulting loss in the number of satellite and amount of services available to the public.

33. Noting that "[t]echnical conflicts may arise in such areas as proposed orbital locations and frequency usage," we concurrently issued a Notice of Proposed Rule Making in Docket No. 16495, 22 FCC 2d 810 (1970), in order to:

> * * * set forth the subject matter and issue to which parties are to focus—namely, the technical or economic conflicts, if any, which exist or may arise between applicants in this area, and what policies are called for in light of any claimed conflicts.

Recognizing potential frequency usage problems that might arise in attempts to implement domestic satellite systems in the 4 and 6 GHz bands and the proposals of the United States to the then imminent 1971 World Administration Radio Conference regarding new allocations at higher frequencies, the Commission also issued a Further Notice of Inquiry and Proposed Rule Making in Docket No. 16495, 25 FCC 2d 718 (1970), requesting comments on the following questions:

> (a) How soon could equipment be available for the use of other frequencies for domestic communications satellite systems and what would be the approximate estimated cost?
>
> (b) How close to urban centers or other premises of potential end users of communications satellite services could earth stations be located if they were to use frequencies other than 4 and 6 GHz, considering any existing terrestrial use of these bands and the potential requirements of authorized terrestrial services?
>
> (c) What are the comparative economic and technological advantages and disadvantages of using the 4 and 6 GHz bands or other proposed bands for domestic communications satellite systems, including such factors as the size and cost of the earth station antennas, the physical characteristics and cost of the satellites, launch vehicles, the number of orbital locations for satellites capable of viewing all 50 States or only those in continental United States, system reliability and redundancy, and any other pertinent factors?

Thus, potential applicants and interested parties were given full opportunities to comment on, or propose alternatives to, the technical criteria contained in Appendix D to the First Report and Order.

34. Little, if any, opposition to these criteria was raised by the parties in Docket No. 16495. Instead, some eight system applications and 104 earth station applications were filed pursuant to the First Report and Order, supra, and the technical criteria set out in Appendix D to that order.[12] Except for the question of orbital separations between adjacent satellites, we therefore did not explicitly review or revise the technical criteria set out in Appendix D when we adopted our Second Report and Order, 35 FCC 2d 844 (1972). Instead, we set out our general policy objectives and the nature of the showings applicants would be required to make before we could find that a grant of their applications would serve the public interest. We stated that:

> Although * * * it is our intention to make such determinations with due regard for the unique circumstances involved here, each applicant must make a sufficient showing of potential public benefit to justify the assignment of orbital locations and frequencies. 35 FCC 2d at 851.

With respect to orbital separations between adjacent U.S. domestic satellites, we decided to adopt the staff's recommendation [13] that:

> The orbital locations for satellites authorized to utilize 4 and 6 GHz frequencies, in whole or in part, will be separated by no more than 3° (or allow for intervening assignments separated by 3°) unless good cause is shown for a wider separation.[14]

With respect to the request of the State of Alaska for a 6° orbital separation to meet the unique requirements of that state for small, inexpensive earth states, we noted that "advances in earth station technology may shortly make it possible to meet the performance specifications needed for 3° separations with earth station antennas of smaller diameter than 30 feet." 35 FCC 2d at 859.

35. However, it did not appear that the degree of frequency and polarization coordination assumed in the Second Report and Order, *supra*, to achieve a uniform 3° satellite spacing was available, in the specific domestic satellite systems that were in fact pursued by the applicants. As a result, we found a 4° spacing guideline more reasonable under current conditions. As we stated in *Western Union Telegraph Company*, 47 FCC 2d 275 (1974), authorizing the launch of the WESTAR II satellite:

> 4. As a preliminary matter we will address the question of orbital spacings. At the time of our various orders in Docket No. 16495 it was thought by the Commission that United States domestic satellites could be spaced three degrees apart in the geostationary orbit to prevent mutual interference and that any one of these satellites had to be five degrees from the Anik satellites of Telesat Canada. Based on current system characteristics and recent calculations made by system operators, the National Aeronautics and Space Administration and the Commission's staff, it appear that spacings on the order of four degrees will be required between most of the domestic satellites, and that five degree spacing from the Anik satellites will be satisfactory only if certain of the R.F. carriers are not on the same frequency as the susceptible carriers in the Canadian system. Such frequency coordination with Canada, in our view, will be practicable and is justified in the interest of keeping the satellite spacings as small as possible. In the event that smaller earth station antennas should be authorized, wider spacings may be required.
>
> 5. For these reasons, satellite spacings of four degrees, starting five degrees from the Ahik satellite location of 104° west longitude will be used by the Commission as a basis for assigning satellite longitudes in the orbital arc east of the Canadian locations. These spacings are still only a guide. Spacings slightly smaller may be possible in some cases, and larger ones may be required in others, based on actual experience and measurements of satellites as they are manufactured and placed in orbit. Among the uncertainties at this time are the isolation that can be achieved by cross-polarization, the sidelobe levels of earth stations, and the use of small terminals.

These conclusions were based on technical analyses assuming the use of 10 meter or larger antennas and did not consider the potential impact of smaller diameter antennas.

36. To date, the Commission has authorized earth stations with antennas less than 9 meters in diameter for regular operations only under exceptional circumstances involving essential communications services where no other feasible alternative was available.[15] Thus, we have considered the use of small antennas at earth stations located in the remote, largely inaccessible locations of the Alaska bush for thin-route and "lifeline" type communications, *RCA Global Communications, Inc., et. al.*, 56 FCC 2d 660 (1975), and on an offshore oil drillings platform on which it is physically impossible to place a standard 9 meter antenna and which could not be served by existing terrestrial facilities, *Cities Service Oil Company, et. al.*, 51 FCC 2d 653 (1975).

37. To summarize, our technical regulation of domestic satellite facilities has been based on the establishment of the minimum technical standards necessary to insure the widest possible availability of high quality, innovative domestic satellite services pursuant to the policy objectives set forth in our Second Report and Order, 35 FCC 2d at 846–847. We have sought to avoid placing a priori restrictions on the design and operations of domestic satellite facilities, relying instead on applicants to come forward with concrete proposals, together with sup-

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[12] Except for two earth station applications that were not later prosecuted, all of the proposed antennas were 9 meters or more in diameter. While several of the system applicants initially proposed operations in other than the 4 and 6 GHz bands, those applications which were in fact prosecuted were later amended to propose operations only in the 4 and 6 GHz bands.

[13] The staff's recommendation in this regard was based on technical advice from the National Aeronautics and Space Administration and assumes careful frequency and polarization coordination.

[14] Proposed Second Report and Order Recommended by the Chief, Common Carrier Bureau, 34 FCC 2d 9 at 72 (1972).

[15] Small antennas have also been authorized for developmental purposes on condition that no harmful interference be caused to other radio facilities and that operations be ceased immediately upon notification of interference.

porting technical analyses, to demonstrate the public benefits of this new communications media. We have, however, found it necessary to closely examine the question of minimizing intersatellite orbital separations to the extent practical, including any necessary restrictions on earth station antenna size, to assure access to the geostationary orbit by present and future satellites to best serve the overall public interest.

DISCUSSION OF THE ABC PETITION

38. To briefly review, ABC is requesting the Commission to "now institute a rule making proceeding to establish a basic overall design for the development of those frequency bands allocated for domestic satellite services."[16] Is suggests that

> * * * efficient spectrum utilization contemplates that (a) 4/6 GHz satellite bands be used only for services utilizing large, high-gain antennas (30 feet) and (b) operations unable (or unwilling) to meet this requirement be assigned elsewhere (i.e., the 12/14 GHz band) * * *[17]

If the Commission does not now adopt such procedures, ABC asserts that the "consequences of such a course to the broadcasting industry in the not too distant future would be to foreclose it effectively from the use of the 4/6 GHz band to satisfy basic requirements."[18]

39. This petition and the arguments advanced by the parties supporting the type of proceeding proposed by ABC overlook the basic regulatory framework we established for domestic satellite communications in Docket No. 16495. As explained above, we decided that the public interest would be best served by providing potential users as wide a degree of flexibility as practical to develop and utilize domestic satellite facilities for existing and new types of services. We sought to avoid imposing unnecessary *a priori* restrictions on the design and operations of domestic satellite facilities. Instead, we encouraged potential applicants to submit concrete proposals for soundly engineered facilities which we would review and approve if found to be in the public interest. Nor did we intend to restrict the flexibility of potential satellite operators to choose the frequency bands allocated for satellite communications that were best suited to satisfying their service objectives. Given the advancing state-of-the-art in satellite technology and the diversity of potential service requirements that can be satisfied by satellite communications, we found it preferable not to exclude any potential user from accessing satellites that may be constructed and operated in any of the allocated frequency bands.

To the extent that frequency bands other than 4 and 6 GHz might be superior from a technical and/or operational point of view to a particular class of user, such users would have a natural technical and economic incentive to utilize satellite systems operating in those bands when such systems become available. However, we see no public interest to be served at this time by denying access to such users in the 4 and 6 GHz bands when satellite systems operating in other frequency bands are not presently available, provided that the design and operation of such facilities satisfy the technical criteria we have established for these bands.

40. Our primary technical objective is to insure the widest availability of domestic satellite service to potential users by requiring that domestic satellite systems be designed from the outset to achieve reasonably small orbital separations between satellites. Thus, we adopted a minimum antenna size of 9 meters as the generally applicable criterion for accomplishing this objective in view of the critical relationship between antenna size and required inter-satellite orbital separations. In doing so, however, we did not preclude the authorization of soundly engineered but smaller antennas in the 4 and 6 GHz bands, but only required that the use of such facilities would not constrain either our efforts to achieve reasonably small orbital separations or the flexibility of space segment operators to reconfigure transponder traffic assignments to best serve their customers.

41. ABC, as well as GTESC in its proposed alternatives, would have us revise our domestic satellite policies to make antenna size the primary criterion of acceptability for licensing in the 4 and 6 GHz bands. Such a myopic approach to the regulation of domestic satellite facilities was not contemplated in the proceedings in Docket No. 16495 which sought to provide as wide a degree of flexibility in the design and operation of domestic satellite facilities as was consistent with the requirement to achieve reasonably small inter-satellite orbital spacings. To the extent that this goal can be achieved with well engineered facilities using antennas less than 9 meters in diameter, precluding the use of such facilities in the manner proposed by ABC would be inconsistent with the domestic satellite policy objectives we adopted in our Second Report and Order.

42. Underlying the ABC Petition also appears to be a concern that the broadcasting industry might not be able to implement a program distribution system in the 4 and 6 GHz bands if and when they decide to do so in the future. Of course, we can not guarantee any particular user that sufficient satellite capacity in these bands will in fact be available for its specific use at some future date in view of the inherent limited nature of this orbit and spectrum resource and the growth in demand for domestic satellite services by all types of users. What we have done, however, is to establish the basic technical framework described above to achieve as large a supply of satellite capacity as practical in the 4 and 6 GHz bands by limiting orbital separations between satellites to reasonable values. In this way, we seek

> to maximize the opportunities for the early acquisition of technical, operational, and marketing data and experience in the use of this technology as a new communications resource for all types of services. 35 FCC 2d at 846.

In view of this objective, we would find it incongruous to initiate a proceeding like the one proposed by ABC, which could have the effect of delaying or denying the opportunity of applicants who are presently willing and ready to construct and operate facilities in the 4 and 6 GHz bands meeting our technical requirements, in order to assure future access to domestic satellites in these bands by other potential users who have yet to decide whether or not they are interested in establishing such systems.

43. Thus, even if the available 4 and 6 GHz transponder capacity were to become fully utilized by the time ABC or other broadcasters were in fact ready to implement a program distribution network, this would not be a result of our authorization of what ABC characterizes as substandard earth stations, i.e., those with antennas less than 9 meters in diameter. Rather, it would only reflect the actual benefits of domestic satellite communications to all segments of the public demonstrated by the growth in the number of transponders in actual use to provide service to all types of users. We therefore find no public interest to be served by excluding potential users whose facilities satisfy the technical criteria set forth above from use of the 4 and 6 GHz bands solely on the basis of the size of the antennas they propose to use. Accordingly, the ABC Petition will be denied.

DISCUSSION OF THE CATA PETITION

44. CATA asks the Commission to issue a declaratory ruling or institute a rule making proceeding looking towards the authorization of antennas less than 9 meters in diameter by cable television systems for program distribution. As we have explained above, our domestic satellite policies do not preclude and have never precluded the authorization of such facilities if certain showings can be made. Thus, the authorization of such facilities does not imply a substantive change in practice requiring prior rule making as argued by ABC, GTESC and NAB. Rather, a declaratory ruling is an appropriate means pursuant to § 1.2 of our Rules and Regulations and Section 554(e) of the Administrative Procedure Act to resolve the outstanding controversies and remove uncertainties surrounding the licensing of such facilities. In issuing this decision, we are only clarifying the nature of the showings and information which we would consider to be an acceptable demonstration that proposed small earth antennas would satisfy the technical objectives we have previously set forth for domestic satellite communications.

45. In addressing this question, it must be emphasized that the desire of a potential user to utilize an earth station antenna less than 9 meters in diameter is not the sole criterion of whether such a

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[16] ABC Petition at page 1.

[17] *Id.* at page 25.

[18] *Id.* at page 28.

facility is acceptable for licensing in the 4 and 6 GHz bands. It is incumbent on him to demonstrate, on the basis of sound engineering analyses, that the proposed facilities will satisfy the required performance objectives of the user and would not impose additional restraints on the flexibility of satellite operators to satisfy the domestic satellite communications needs of customers using 9 meter or larger antennas. In particular, we must also be assured that our objective of achieving reasonably small inter-satellite orbital separations for earth stations with standard size antennas would not be frustrated by authorizing the use of small antennas.

46. The nature of the showings contemplated in Docket No. 16495 and our previous statements concerning this issue [29] will be set forth in greater detail below. Assuming these requirements are satisfied by the applicant, we see no public interest to be generally served at this time by requiring further showings regarding the comparative quality or quantity of service obtained through such facilities relative to that obtainable from 9 meter or larger antennas. Nor do we find it essential to continue to limit the availability of small antennas that fully comply with these standards only to situations involving essential communications services. In our view, the public interest in efficient orbit and spectrum utilization would not be adversely affected by permitting the use of soundly engineered small antenna facilities that meet the performance objectives for the particular communications requirements of the user under the terms and conditions set forth below.

47. Before turning to the question of the types of showings that will be required for the licensing of small antennas, we will first address two issues raised by parties commenting on these petitions. One issue is the impact on terrestrial facilities operating in the 4 and 6 GHz bands that might result from a proliferation of small antennas. The second relates to the suggestion that licensing of receive-only stations be made optional at the sole discretion of the station operator.

IMPACT ON TERRESTRIAL FACILITIES

48. Several parties argue that the authorization of small antennas would lead to a proliferation of earth stations in the 4 and 6 GHz bands which would be detrimental to the use of these bands by terrestrial microwave systems. We find no merit in this argument. As pointed out by NCTA in its Reply Comments, these bands are shared on a coequal basis by both the terrestrial and satellite services. Thus, we have established a prior coordination mechanism for these bands in Parts 21 and 25 of our Rules and Regulations to assure equitable use of these frequency bands by stations in both services. The authorization of an earth station necessarily restricts the flexibility of terrestrial operators in siting point-to-point microwave facilities in the vicinity of the earth station in the same manner that our authorization of terrestrial facilities restricts flexibility in siting earth stations. However, this situation is inherent to the shared usage of these bands by terrestrial and space services and is not a sufficient reason for precluding growth in the usage of these bands by either service.[30]

49. It should be noted that we expressed initial concern in our First Report and Order regarding the feasibility of actually implementing domestic satellite systems in the 4 and 6 GHz bands because of the terrestrial congestion that even then existed. However, the past few years have dispelled these concerns in light of the numerous earth stations that have since been successfully coordinated and placed into operation in these bands without harmful interference. Moreover, as pointed out in the comments, various techniques are available to a potential earth station operator to reduce the potential of interference under the particular circumstances encountered.[31]

50. In view of the public interest to be served by the availability of both terrestrial and earth station facilities in the 4 and 6 GHz bands, we find no reason to restrict the growth of either type in these bands. Our prior coordination procedures adequately protect existing and planned frequency usage of these bands by both services. Thus, any growth in the use of these bands by domestic satellite earth station facilities under these procedures will result in a more intensive utilization of these bands which only reflects the public demand for domestic satellite communications.

LICENSING RECEIVE-ONLY EARTH STATIONS

51. It has also been suggested in the pleadings on the CATA Petition that licensing of receive-only earth stations be made optional at the discretion of the operator. We believe it necessary to address this point here. Our decision to individually license receive-only earth stations was set forth in our First Report and Order, *supra* where we stated:

> We think that receive/only stations must be licensed by the Commission if they are to be protected from interference, and also to assure the quality of service intended for use by the public.

While neither our power to require licensing of these types of receive-only earth stations, nor the need for a licensing procedure to provide protection from interference is at issue here, questions were raised concerning the desirability of continuing to require earth station operators to obtain protection from interference.

52. As noted above, receive-only earth stations are subject to harmful interference from terrestrial transmitters in the 4 GHz band. If receive-only earth stations are placed into operation in a maner that does not insure freedom from interference at the outset, users would come to rely on the availability of facilities whose usefulness can be suddenly terminated due to harmful interference. We are not convinced that the public interest woud be seved by allowing such situations to arise when our present prior coordination and licensing procedures are available to prevent such occurrences from arising in the future. This is particularly true when the earth stations is being used to receive program material to be distributed to end viewers by terrestrial means such as cable television systems. We do not see how the earth station operator can fulfill his public service responsibilities in such cases by placing himself in a position where his ability to serve the public can be jeopardized by harmful interference to his earth station facilities. Therefore, as we previously stated, we will require receive-only earth station operators to follow our prior coordination and licensing procedures.

53. We recognize, however, that some degree of flexibility should be provided to potential earth station operators to execise sound engineering judgment in assessing the acceptability of particular interference conflicts or in choosing among available alternatives to eliminate such conflicts.[32] An additional measure of flexibility to choose among available types of well engineered earth station facilities that satisfy the licensee's service requirements is also consistent with our domestic satellite polices. However, this flexibility to the licensee to exercise his own engineering judgment in specific and isolated cases can not be extended without limit to the overall design of domestic satellite facilities or the licensee's basis ability to meet his public service responsibilities through the proposed facilities.

DECLARATORY RULING

54. As we have previously explained above, our domestic satellite policies do not necessarily preclude the authorization of earth station antennas less than 9 meters in diameter in the 4 and 6 GHz bands. What is necesary is to clarify this matter by setting forth the general types of technical information and showings that are required before such facilities can be authorized by the Commission. In the next section, we will apply these

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[29] See *Second Report and Order*, *supra* at 859; *Cities Service Oil Company, et. al.*, 51 FCC 2d 653, 667-669 (1975); *UA-Columbia Cablevision, Inc., et. al.*, 55 FCC 2d 656, 660 (1975); and *RCA Global Communications, Inc., et. al.*, 56 FCC 2d 660, 690-691 (1975).

[30] It should be noted that while the authorization of one terrestrial station may preclude the authorization of another terrestrial station nearby because of interference between the two, an earth station can not interfere with another except indirectly through adjacent satellite interference. This is because the earth stations transmit in one band (6 GHz) and receive in a different one (4 GHz). Thus, earth stations can be sited directly adjacent to each other without interference.

[31] This includes artificial site shielding and interference cancelling techniques.

[32] As an example of this flexibility, see § 25.252(c) of the Rules and Regulations.

general considerations to the specific case of small antennas to be used for the reception of program material to be distributed to end viewers by cable television systems within the 48 contiguous states.

55. As stated above, it is our intent to avoid imposing unnecessary *a priori* technical contraints on the design and operation of high quality domestic satellite facilities and communications links available to potential users. In this way, we seek to provide the opportunity to potential licensees to develop innovative and well engineered facilities and services that can demonstrate in practice the unique potential of domestic satellite communications to better serve the public interest in efficient and economical telecommunications. On the other hand, this flexibility must be constrained by the need to design and operate these domestic satellite facilities in a manner that insures as great an availability of domestic satellite capacity as practical to potential users by multiple suppliers by achieving reasonably small inter-satellite orbital separations. Moreover, in view of the dynamic nature of domestic nature of domestic satellite communications, flexibility must be retained to relocate satellites from their initial orbital locations as required in the public interest and to reconfigure transponder traffic assignments as required by the satellite operator to best serve the public. This overall flexibility in space segment operations should not be limited by constraints imposed by individual earth stations.

56. The 9 meter minimum size criterion[23] for domestic satellite earth station antennas set forth in Appendix D to the First Report and Order is intended to insure that domestic satellite systems operating in the 4 and 6 GHz bands will be designed from the outset in a manner that reasonably achieves these objectives without requiring excessively high cost facilities. While we initially sought to achieve a satellite spacing no greater than 5 degrees in our First Report and Order, a 3 degree spacing was found to be achievable in our Second Report and Order, if careful frequency and polarization coordination were performed between adjacent satellites. Since such careful coordination was not possible between the first generation of domestic satellites, we later found that the actual satellites, utilizing only 9 meter or larger earth stations antennas, could be spaced 4 degrees apart provided that a limited degree of frequency coordination is performed by satellite operators to avoid certain worst case situations.[24] [25] Given the present state-of-the-art in satellite and earth station technology, the 9 meter and larger earth station antennas authorized to date have achieved to the extent practical the technical objectives set forth above.

57. We recognized that there are applications of domestic satellite communications in the 4 and 6 GHz bands which can be implemented with earth station antennas less than 9 meters in diameter. Of particular concern here are those cases where the user's primary objective is to minimize the cost of earth station facilities by using a smaller antenna and foregoing the higher signal quality and reliability available with a conventional 9 meter antenna.[26] We do not believe that the public interest would be served by denying the user the opportunity of making such a choice. But before granting a license to operate such earth station facilities, we must first be asured that the station will be designed and operated in a manner that will achieve the applicant's stated service objectives and that the use of such a small antenna would in no case be the limiting factor in achieving small inter-satellite orbital spacings or impose additional constraints on flexibility of transponder usage.

58. In making such a showing, the applicant must clearly state the overall performance objectives to be achieved for each type of communicaions link to be operated through the proposed facilities. The overall performance objectives must then be broken down into the objectives to be met for each source of signal degradation to be encountered (e.g. uplink and downlink thermal noise, intermodulation noise, intra-satellite interference, terrestrial interference, inter-satellite interference, etc.), together with the necessary technical calculations demonstrating that each of these individual objectives will be satisfied by the proposed facilities. We do not believe it necessary or desirable for the Commission to prescribe specific performance objectives at this stage in the development of domestic satellite communications. Applicants may rely on relevant CCIR reports and recommendations and on other recognized industry standards or where such standards are either not existent or inapplicable, alternative performance objectives can be advanced by the applicant. Sound engineering practices must be demonstrated to insure that the facilities will provide the quality of service required.

59. With respect to potential inter-satellite interference, the applicant must examine each type of existing or planned r.f. carrier transmitted over any type of authorized or proposed domestic satellite at an orbital separation of 4 degrees to insure that the proposed small antenna will neither receive nor cause unacceptable levels of interference assuming co-channel operations. Calculated interference levels may be expressed in whatever terms (e.g. carrier-to-interference ratios, picowatts, etc.) are most appropriate to the circumstances under consideration. However, the relationship between these levels and the output signal quality of the channel from the earth station must be clearly stated. Advantages due to cross-polarization between adjacent satellites may be used where available.[27] Until a greater degree of experience is available, we believe it preferable not to specify at this time further details on the precise assumptions and methodology to be employed in making such analyses, except to require that the best available engineering information and procedures be employed in the particular circumstances.

60. We will not require that a detailed showing be made for each individual small earth station antenna, but will entertain prototype comprehensive analyses for a specific type of operation anywhere within the coverage area of a satellite. However, in such cases, the technical analysis must clearly identify the range of performance obtained within the coverage area from best to worst case conditions. Our determination of the general acceptability for licensing of small antennas in such cases will be based on the nominal case conditions if it is shown that suitable arrangements can be made for acceptable operations under worst case conditions. Having accepted a showing in the general case, we would then routinely process applications meeting the underlying technical assumptions on which the prototype showing was made. However, applicants encountering worst case conditions would be required to adopt appropriate measures, based upon their own engineering judgment, to ensure that their proposed facilities will in fact produce a level of performance which is acceptable.

61. The Commission will review such showings and request such additional information as necessary to insure that the

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[23] Although Appendix D is phrased in terms of directivity, we find it appropriate to apply this 9 meter standard in terms of physical aperture in light of the subsequently adopted sidelobe performance requirements set forth in Section 25.209 of the Rules and Regulations. However, it was announced as and has remained a comparability standard rather than an absolute size limitation (see Para. 32).

[24] In particular, transmission of an analog television signal over one satellite on the same frequency transponder that an adjacent satellite is carrying single channel per carrier or other multiple access transmissions.

[25] It should also be recognized that domestic satellite facilities are subject to interference from radio facilities operated in other countries, and additional constraints might be necesary in particular cases to avoid interference between radio stations operated by U.S. entities and those of other administrations. However, such conditions will be resolved on a case-by-case basis pursuant to existing international coordination procedures.

[26] Of course, a licensee's objective to minimize earth station costs does not in itself override a licensee's common carrier or other public service obligations that are to be satisfied by the proposed facilities.

[27] Until measured data is available, values for cross-polarizaion discriminaion should not exceed 4 dB for the RCA SATCOM satellite and 6 dB for the ANIK, COMSTAR and WESTAR satellites.

proposed operations satisfy the objectives we have set forth above. In issuing authorizations for small antenna earth station facilities, the Commission will limit the operations of the station to only those specifically addressed in the technical analysis. Additional terms and conditions may be imposed as required to further these objectives. The Commission will endeavor to maintain a current compilation of the technical data needed to perform the type of analyses described above and will require domestic satellite licensees to submit any data regarding their satellite operations required in this regard. It is anticipated that these procedures will be further refined as experience is gained in the future.[28]

AUTHORIZATION OF SMALL ANTENNAS FOR CABLE TELEVISION SYSTEMS

62. Several parties supporting the CATA Petition have submitted technical analyses purporting to demonstrate that antennas as small as 4.5 meters are acceptable for use by cable television systems within the 48 contiguous states[29] for reception of program material distributed by domestic satellite. None of the parties opposing the CATA Petition have raised any objections to the technical details of the analyses presented by the parties supporting the CATA Petition. Since we have already disposed of their other objections, the remaining issue to the decided is whether an adequate showing has been made to satisfy the technical criteria and objectives set forth above.

63. We have reviewed the various technical information and analyses submitted by various parties in support of the CATA Petition and, in the attached Appendix, we present our assessment of the acceptability of antennas as small as 4.5 meters for cable television systems in a form that is consistent with the guidelines set forth above. For this purpose, we have assumed nominal performance and interference objectives which HBO and others suggest would provide acceptable signal quality for cable television systems. Specifically, we consider the feasibility of employing 4.5 meter antennas to achieve a 14 dB carrier-to-noise ratio,[30] which provides a 3 dB margin over the 11 dB FM threshold of conventional receivers, and an 18 dB carrier-to-interference ratio with 4 degree satellite separations.[31] It is not our intent, however, that these particular values be established as concrete standards that must be met by each individual earth station. Rather, these values are used in our analyses as being representative of the type of good engineering design practices on which our general evaluation of such proposals must be based. It is particularly difficult to establish concrete performance objectives for television signals because of the highly subjective nature of the perceived effects of thermal noise and interference.

64. The carrier-to-noise ration achievable by a given size of earth station antenna depends primarily on the receiver noise temperature[32] and the radiated power of the satellite towards the earth station. With the domestic satellites currently in operation, achieving a 14 dB carrier-to-noise ratio with a 4.5 meter antenna at many, if not most, locations in the 48 contiguous states is technically feasible if a sufficiently low noise receiver is employed at the earth station. However, the technical analyses submitted in support of the CATA Petition overestimate the performance that can actually be achieved in practice by 4.5 meter antennas due to their exclusion of various types of miscellaneous losses and variations between the radiated powers of different satellites. These variations can in some circumstances exceed the assumed margin above FM threshold if the low noise receiver were selected only on the basis of the highest power satellite and free space propagation loss, and it is agreed that unacceptable performance will result when the received carrier-to-noise ratio falls below FM threshold. In some cases, receivers with FM thresholds extended down to an 8.5 dB carrier-to-noise ratio might be used, although the resulting signal-to-weighted noise ratio will be less than that achieved by receivers with 11 dB FM thresholds. However, the carrier-to-noise ratio actually received at the earth station (including miscellaneous losses and variations in satellite power) should exceed the FM threshold of the earth station receiver by at least 1 to 2 dB, and simultaneously furnish a minimum 36 dB S/N ratio at the subscriber terminals as specified in § 76.605(a)(9) of the Rules and Regulations.

65. In analyzing the effects of intersatellite interference, most of the parties calculate received interference levels on the basis of an assumed model consisting of five specific satellites to compute an aggregate intersatellite interference level. However, use of such a model may overlook other particular configurations of satellites which could cause the interference levels to be exceeded in those cases. It is therefore necessary that intersatellite interference be calculated on a single entry basis for each possible pair of desired and interfering satellites, with a suitable adjustment to convert the carrier-to-total interference objective identified above into a single entry criterion. When this analysis is performed, it appears that the carrier-to-interference objective will be satisfied for present domestic satellites if the earth station sidelobe levels do not exceed the envelope defined in § 25.209 of the Rules and Regulations.

66. In review, it does not appear that the stated nominal objectives will in fact be satisfied under all worst case conditions by 4.5 meter antennas. Careful engineering consideration will have to be given by the licensee to the specific circumstances existing at his particular location, particularly with respect to the choice of antenna size and the low noise receiver to be employed at his station. Moreover, he will also have to assess the various tradeoffs in his particular case between antenna size, receiver noise temperature, FM threshold, desired performance and the cost of his facilities. However, it appears that the required performance and interference objectives can generally be met for many, if not most, locations within the 48 contiguous states by antennas as small as 4.5 meters in diameter with an appropriately chosen low noise receiver. This assumes that the licensee will exercise good engineering judgment in the selection of the appropriate type of facilities required in his particular circumstances.

67. It therefore appears that the use of 4.5 meter antennas for reception of programming material by cable television operators within the 48 contiguous states will not in general adversely affect required satellite orbital spacings and the quality of service generally offered to the public served via such earth stations facilities. We cannot, however, make at this time any findings that this will in fact be the case for any particular earth station. Each potential earth station operator must evaluate the precise circumstances that exist in his location and employ sound engineering judgment in selecting the type of facilities best suited for his application. In order to demonstrate the acceptability of a receive-only earth station antenna between 4.5[33] and 9 meters in diameter for cable television use, an applicant for such facilities will have to include certain supplemental information in its application to demonstrate that acceptable performance objectives can in fact be achieved by their proposed facilities under their particular circumstances. At a minimum, this should include (a) the make, model number, noise temperature and FM threshold of the receiving equipment to be employed, (b) a detailed calculation of the overall receiving system noise temperature identifying all relevant noise contributions, (c) for each satellite from which signals are to be received at the

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[28] In particular, some variation in the methods employed in performing such analyses [e.g. use of additional discrimination due to frequency interleaving between r.f. carriers] may be warranted in cases involving essential communications that can be provided only by means of small antennas.

[29] Since the offshore areas of Alaska, Hawaii and Puerto Rico may be served by different satellite antenna feeds, additional analyses are required in this regard before the determinations reached below can be extended to these points.

[30] If this carrier-to-noise ratio is in fact achieved under actual operating conditions, a 52 dB signal-to-weighted noise ratio will result with the type of modulation parameters currently employed to distribute programming by domestic satellite.

[31] According to some subjective evaluations, the effects of interference were first detectable at this carrier-to-interference level.

[32] In the general sense, the received carrier-to-noise ratio is proportional to the ratio between the antenna gain (i.e. size) and the receiving system system noise temperature.

[33] With respect to horn antennas, such types of antennas with apertures as small as 14 feet will be considered to fall within this range for routine processing.

station, a detailed link calculation of the video and audio signal-to-noise ratios to be achieved assuming appropriate values of miscellaneous losses in addition to free space propagation loss and (d) a statement of the licensee's desired carrier-to-interference ratio objectives for terrestrial and inter-satellite interference. Assuming cable television operators exercise sound engineering judgment in the selection of the equipment to be used at proposed receive-only earth stations, we can, however, conclude that such use of earth station antennas as small as 4.5 meters in diameter can generally be expected to satisfy the technical criteria established for domestic satellites and that no public interest would be served by denying potential licensees from availing themselves of the use of such facilities under these circumstances.

ORDER

68. Accordingly, for the reasons set forth above, *It is ordered* That the petition (RM-2614) of the American Broadcasting Companies captioned above is denied.

69. *It is further ordered* That the request of the Community Antenna Television Association (RM-2725) captioned above is granted to the extent set forth above.

70. *It is further ordered* That applications filed by cable television system operators proposing the use of 4.5 meter or larger antennas within the 48 contiguous states for reception of television programming material distributed by domestic satellites will be routinely processed in the future in accordance with the conditions set forth above.

FEDERAL COMMUNICATIONS
COMMISSION,[34]
VINCENT J. MULLINS,
Secretary.

[FR Doc.77-1074 Filed 1-11-77;8:45 am]

FEDERAL MARITIME COMMISSION

BOARD OF TRUSTEES OF THE GALVESTON WHARVES COOK TERMINAL COMPANY, INC. AND COOK INDUSTRIES, INC.

Agreement Filed

Notice is hereby given that the following agreement has been filed with the Commission for approval pursuant to section 15 of the Shipping Act, 1916, as amended (39 Stat. 733, 75 Stat. 763, 46 U.S.C. 814).

Interested parties may inspect and obtain a copy of the agreement at the Washington office of the Federal Maritime Commission, 1100 L Street, NW., Room 10126; or may inspect the agreement at the Field Offices located at New York, NY., New Orleans, Louisiana, San Francisco, California, and Old San Juan, Puerto Rico. Comments on such agreements, including requests for hearing, may be submitted to the Secretary, Federal Maritime Commission, Washington, D. C. 20573, on or before January 24, 1977. Any person desiring a hearing on the proposed agreement shall provide a clear and concise statement of the matters upon which they desire to adduce evidence. An allegation of discrimination or unfairness shall be accompanied by a statement describing the discrimination or unfairness with particularity. If a violation of the Act or detriment to the commerce of the United States is alleged, the statement shall set forth with particularity the acts and circumstances said to constitute such violation or detriment to commerce.

A copy of any such statement should also be forwarded to the party filing the agreement (as indicated hereinafter) and the statement should indicate that this has been done.

Notice of agreement filed by:

Mr. Carl S. Parker, Jr., Traffic Manager, Board of Trustees of the Galveston Wharves, 802 Rosenberg, P.O. Box 328, Galveston, Texas 77550

Agreement No. T-2814-3/T-2814-A-3/T-2814-B-2 (hereinafter referred to as "Amendment") is a single document which modifies three separate agreements relating to the construction, lease and guarantee of a materials handling facility at Galveston, Texas: (1) Agreement No. T-2814, which is between the Board of Trustees of the Galveston Wharves (Galveston) and Cook Terminal Company, Inc., (Cook), and provides for Galveston's construction of a materials handling facility to Cook's specifications for the warehousing, storage, conditioning and shipping of bulk commodities; (2) Agreement No. T-2814-A, which is also between Galveston and Cook and provides for the lease of this facility to Cook; and (3) Agreement No. T-2814-B, which is between Galveston and Cook's parent company, Cook Industries, and provides for the guarantee of Cook's obligations to Galveston under Agreement No. T-2814-A, above.

The purpose of the Amendment is to take formal note of certain events which have occurred since the original execution of Agreements Nos. T-2814, T-2814-A and T-2814-B and of facts which now exist. To accomplish this, the Amendment: (a) deletes the third sentence of Paragraph III of Agreement No. T-2814, and all of Paragraphs VII through XI of Agreement No. T-2814; (b) amends the first sentence of Agreement No. T-2814 to provide that Galveston's financing of its acquisition of the facility, the payment of any remaining costs of constructing the facility and the payment of costs associated with the issuance of bonds shall be accomplished through Galveston's prompt issuance and sale of its City of Galveston, Texas, Special Contract Revenue Bonds, Series 1976; (c) amends Paragraph XIV of Agreement No. T-2814 to provide for the amounts payable by Cook in the event of the agreement's termination; and (d) amends all references in Agreements Nos. T-2814-A and T-2814-B to "City of Galveston, Texas, Special Contract Revenue Bonds, Series 1975", to refer to "City of Galveston, Texas, Special Contract Revenue Bonds, Series 1976."

By order of the Federal Maritime Commission.

Dated: January 7, 1977.

FRANCIS C. HURNEY,
Secretary.

[FR Doc.77-1079 Filed 1-11-77;8:45 am]

CERES, INC. AND TRI-STATE TERMINALS, INC.

Agreements Filed

Notice is hereby given that the following agreements have been filed with the Commission for approval pursuant to section 15 of the Shipping Act, 1916, as amended (39 Stat. 733, 75 Stat. 763, 46 U.S.C. 814).

Interested parties may inspect and obtain a copy of the agreements at the Washington office of the Federal Maritime Commission, 1100 L Street, NW., Room 10126; or may inspect the agreements at the Field Offices located at New York, N.Y., New Orleans, Louisiana, San Francisco, California, and Old San Juan, Puerto Rico. Comments on such agreements, including requests for hearing, may be submitted to the Secretary, Federal Maritime Commission, Washington, D.C. 20573, on or before February 1, 1977. Any person desiring a hearing on the proposed agreements shall provide a clear and concise statement of the matters upon which they desire to adduce evidence. An allegation of discrimination or unfairness shall be accompanied by a statement describing the discrimination or unfairness with particularity. If a violation of the Act or detriment to the commerce of the United States is alleged, the statement shall set forth with particularity the acts and circumstances said to constitute such violation or detriment to commerce.

A copy of any such statement should also be forwarded to the party filing the agreements (as indicated hereinafter) and the statement should indicate that this has been done.

Notice of agreements filed by:

Robert Stack, President, Ceres, Incorporated, 12800 Butler Drive, Chicago, Illinois 60633.

Agreement No. T-3397, between Ceres, Incorporated (Ceres) and Tri-State Terminals, Inc., (Tri-State), provides for the sublease to Tri-State of those premises leased by the Indiana Port Commission (Port) to Ceres in FMC Agreement No. T-3310. The premises to be subleased to Tri-State include Transit Shed No. 2 at Burns Waterway Harbor together with the free, unimpeded and exclusive use of the wharfage and trucking concourse adjacent to the leased premises. The facility is to be operated as a ship, barge, railroad and truck terminal and warehouse. As compensation, the Port is to receive $100,000 annually. Tri-State is also required to collect and pay to Port all dockage and wharfage charges and harbor dues as set forth in the Port's tariff.

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[34] See separate statement of Commissioner Washburn and Appendix filed with original document.

Agreement No. T-3398, also between Ceres and Tri-State, provides for the sublease to Tri-State of those premises leased by the Port to Ceres in FMC Agreement No. T-3311. The premises to be subleased to Tri-State include Outside Storage Area No. 2 (comprising 4.36 acres) at Burns Waterway Harbor, together with the free, unimpeded and exclusive use of the wharfage and trucking concourse adjacent to the leased premises. The facility is to be operated as a ship, barge, railroad and truck terminal and storage facility. As compensation, the Port is to receive $20,000 annually. Tri-State is also required to collect and pay to the Port all dockage and wharfage charges and harbor dues as set forth in the Port's tariff.

Dated: January 7, 1977.

By order of the Federal Maritime Commission.

FRANCIS C. HURNEY,
Secretary.

[FR Doc.77-1078 Filed 1-11-77; 8:45 am]

FEDERAL POWER COMMISSION

[Docket Nos. CS77-179, et al]

PALEO, INC., ET AL

Applications for "Small Producer" Certificates[1]

JANUARY 4, 1977.

Take notice that each of the Applicants listed herein has filed an application pursuant to Section 7(c) of the Natural Gas Act and § 157.40 of the Regulations thereunder for a "small producer" certificate of public convenience and necessity authorizing the sale for resale and delivery of natural gas in interstate commerce, all as more fully set forth in the applications which are on file with the Commission and open to public inspection.

Any person desiring to be heard or to make any protest with reference to said applications should on or before January 28, 1977, file with the Federal Power Commission, Washington, D.C. 20426, petitions to intervene or protests in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 1.8 or 1.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Persons wishing to become parties to a proceeding or to participate as a party in any hearing therein must file petitions to intervene in accordance with the Commission's Rules.

Take further notice that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Power Commission by Sections 7 and 15 of the Natural Gas Act and the Commission's Rules of Practice and Procedure, a hearing will be held without further notice before the Commission on all applications in which no petition to intervene is filed within the time required herein if the Commission on its own review of the matter believes that a grant of the certificates is required by the public convenience and necessity. Where a petition for leave to intervene is timely filed, or where the Commission on its own motion believes that a formal hearing is required, further notice of such hearing will be duly given.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for Applicants to appear or be represented at the hearing.

KENNETH F. PLUMB,
Secretary.

Docket No.	Filing date	Applicant
CS77-179	Dec. 17, 1976	Paleo, Inc., Suite 205, May-Ex Bldg., 3022 Northwest Expressway, Oklahoma City, Okla. 73112.
CS77-195	do	Lynn D. Miller, 1720 Eye St. NW., Suite 400, Washington, D.C. 20006.
CS77-196	Dec. 20, 1976	Ann S. Wallbaum, P.O. Drawer B, Shreveport, La. 71161.
CS77-197	Dec. 17, 1976	L. Marie Jarratt, P.O. Drawer B, Shreveport, La. 71161.
CS77-198	do	R. R. Ebarb, P.O. Drawer B, Shreveport, La. 71161.
CS77-199	do	A. T. Dickerson, P. O. Drawer B, Shreveport, La. 71161.
CS77-200	do	R. & H. Account, P.O. Drawer B, Shreveport, La. 71161.
CS77-201	do	Lena A. Funderburk, P.O. Drawer B, Shreveport, La. 71161.
CS77-202	do	LBJ Petroleum, Inc., P.O. Drawer B, Shreveport, La. 71161.
CS77-203	do	Hugh Wells, P.O. Drawer B, Shreveport, La. 71161.
CS77-204	do	Charlie Hairston, P.O. Drawer B, Shreveport, La. 71161.
CS77-205	do	Melda B. Webb, P.O. Drawer B, Shreveport, La. 71161.
CS77-206	do	E. R. Musgrave, P.O. Drawer B, Shreveport, La. 71161.
CS77-207	do	Ray P. Oden, Sr., P.O. Drawer B, Shreveport, La. 71161.
CS77-208	do	Martin B. Seretean, P.O. Box 1248, Dalton, Ga. 30720.
CS77-209	do	Ray B. Vaughters, 3453 Knollwood Dr. NW., Atlanta, Ga. 30305.
CS77-210	do	Harriet J. Catron, 180 Farm Rd., Woodside, Calif. 94062.
CS77-211	do	The Grayrock Corp., 606 Mercantile Dallas Bld., Dallas, Tex. 75201.
CS77-212	do	Robert J. Sullivan, Jr., 2446 East 46th Pl., Tulsa, Okla. 74105.
CS77-213	do	Clifton Loudin Oil & Gas Co., R. 2, Box 2-A, Harrisville, W. Va. 26362.
CS77-214	do	Ross & Wharton Gas Co., P.O. Box 173, Coalton, W. Va. 26257.
CS77-215	do	Robert E. Litman, P.O. Box ....., New Martinsville, W. Va. 26155.
CS77-216	do	Ben P. McCarley, 7239 Elmridge, Dallas, Tex. 75240.
CS77-217	do	R. J. Sullivan and Theresa M. Sullivan, 2118 East 29th St., Tulsa, Okla. 74114.
CS77-218	do	Frayley Oil Co., Inc., 300 South Main St., Borger, Tex. 79007.
CS77-219	do	Harlow Sprouse, P.O. Box 9158, Amarillo, Tex. 79105.
CS77-220	Dec. 20, 1976	Edward H. Hill, P.O. Box 9158, Amarillo, Tex. 71905.
CS77-221	do	Jerry P. Lyons, P.O. Box 9158, Amarillo, Tex. 79105.
CS77-222	do	Winston R. Smith, P.O. Box 9158, Amarillo, Tex. 79135.
CS77-224	do	Lenore M. Deem, Agent, 101 East Main St., Harrisville, W. Va. 26362.
CS77-225	do	Do.
CS77-226	do	W. A. Deem, R.F.D. 2, Harrisville, W. Va. 26362.
CS77-227	do	Tracey H. McCarley, Jr., 333 Bentel Ave., Los Angeles, Calif. 90049.
CS77-228	do	James F. Scott, P.O. Box 112 Salem, W. Va. 26426.
CS77-229	do	Theodore J. Manchak, 1775 The Exchange, Suite 360, Atlanta, Ga. 30339.
CS77-230	do	The Lavelle Webster Trust, 12334 Overcup, Houston, Tex. 77024.
CS77-231	do	Frank Taylor Webster, 12334 Overcup, Houston, Tex. 77024.

[FR Doc.77-853 Filed 1-11-77;8:45 am]

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Alcohol, Drug Abuse, and Mental Health Administration

NATIONAL ADVISORY MENTAL HEALTH COUNCIL

Meeting Correction

In FR Doc. 76-36753 appearing at page 54815 in the issue of Wednesday, December 15, 1976, the time for the January 24-26 meeting of the National Advisory Mental Health Council should be changed from 9:30 a.m. to 9:00 a.m.

Dated: January 6, 1977.

CAROLYN T. EVANS,
Committee Management Officer, Alcohol, Drug Abuse, and Mental Health Administration.

[FR Doc.77-1045 Filed 1-11-77;8:45 am]

Office of Education

NATIONAL ADVISORY COUNCIL ON INDIAN EDUCATION

Meeting

Agency: National Advisory Council on Indian Education.

Action: Notice.

Summary: This notice sets forth the schedule and proposed agenda of forthcoming meetings of the National Advisory Council on Indian Education. It also describes the functions of the Council. Notice of these meetings is required under the Federal Advisory Committee Act (5 U.S.C. Appendix 1, 10(a)(2)). This document is intended to notify the general public of their opportunity to attend.

Dates: Meetings: January 27, 28, and 29, 1977, 9:00 am to 5:00 pm.

Address: Marriott Hotel, 180 West Broadway, Tucson, Arizona 85701.

For further information contact: William Floyd, Office of Education, Department of Health, Education, and Welfare, FOB 6, Room 4047, 400 Maryland Ave. SW., Washington, D.C. 20202 (202-245-8060).

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[1] This notice does not provide for consolidation for hearing of the several matters covered herein.

The National Advisory Council on Indian Education is established under Section 442 of the Indian Education Act, Title IV of P.L. 92-318, (20 U.S.C. 1221g).

The Council is directed to:

(1) advise the Commissioner of Education with respect to the administration (including the development of regulations and of administrative practices and policies) of any program in which Indian children or adults participate from which they can benefit, including Title III of the Act of September 30, 1950 (Public Law 874, Eighty-first Congress), as added by this Act, and section 810, Title VIII of the Elementary and Secondary Education Act of 1965, as added by this Act and with respect to adequate funding thereof;

(2) review applications for assistance under Title III of the Act of September 30, 1950 (P.L. 874, Eighty-first Congress), as added by this Act, section 810 of Title VIII of the Elementary and Secondary Education Act of 1965, as added by this Act and section 314 of the Adult Education Act, as added by this Act, and make recommendations to the Commissioner with respect to their approval;

(3) evaluate program and projects carried out under any program of the Department of Health, Education, and Welfare in which Indian children or adults can participate or from which they can benefit, and disseminate the results of such evaluations;

(4) provide technical assistance to local educational agencies and to Indian educational agencies, institutions, and organizations to assist them in improving the education of Indian children;

(5) assist the Commissioner in developing criteria and regulations for the administration and evaluation of grants made under section 303(b) of the Act of September 30, 1950 (Public Law 874, Eighty-first Congress); and

(6) to submit to the Congress not later than March 31 of each year a report on its activities, which shall include any recommendations it may deem necessary for the improvement of Federal education programs in which Indian children and adults participate, or from which they can benefit, which report shall include statement of the National Advisory Council's recommendations to the Commissioner with respect to the funding of any such programs.

The Council, pursuant to the authority contained in section 441(a) of P.L. 92-318, (20 U.S.C. 1221f), shall submit a list of nominees from which the Commissioner of Education shall appoint a Deputy Commissioner of Indian Education.

The meeting on January 27, 28, and 29, 1977, will be open to the public beginning at 9:00 a.m. and ending 5:00 p.m. each day, except as otherwise noted in the next paragraph of this notice. This meeting will be held at the Marriott Hotel, Tucson, Arizona.

The Proposed agenda includes:

(1) Executive Director's Report
(2) Action on previous meeting minutes
(3) Executive Committee Report
(4) Committee discussions and reports
(5) Plans for NACIE IV Annual Report
(6) Review NACIE FY '77 Budget
(7) Special Reports
(8) Plans for future NACIE activities
(9) Regular Council Business

The sessions on Thursday, January 27, 1977 from 9:00 a.m. to 12:00 p.m. and Saturday, January 29, 1977 from 9:00 a.m. to 3:00 p.m. will be closed to the public to review applications for the position of Deputy Commissioner of the Office of Indian Education that must be held in confidence, under the authority of Section 10(d) of the Federal Advisory Committee Act (P.L. 92-463) and under the exemptions contained in the Freedom of Information Act, Section 552(b) (2) and (6) of Title 5 U.S.C., (P.L. 90-23), 45 CFR § 5.71(a) and § 5.71(c). Discussion of the applications will include consideration of the qualifications and fitness of the candidates and will touch upon many matters which would constitute a serious invasion of privacy if conducted in an open session.

Records shall be kept of all Council proceedings and shall be available 14 days after the meeting for public inspection at the Office of the National Advisory Council on Indian Education located at 425 13th Street, N.W., Room 326, Washington, D.C., 20004.

Signed at Washington, D.C. on December 21, 1976.

STUART A. TONEMAH,
Acting Executive Director, National Advisory Council on Indian Education.

[FR Doc.77-1032 Filed 1-11-77;8:45 am]

TEACHER CORPS

Closing Date for Receipt of Applications

Correction

In FR Doc. 77-419, appearing at page 1306 in the issue for Thursday, January 6, 1977, the figure in the last line of the first paragraph, now reading "$235,000,000," should read "$235,000".

POSTSECONDARY EDUCATION AMENDMENTS OF 1976

Intent To Issue Regulations: Corrections

In FR Doc. 76-37592 appearing at page 55749 in the issue of Wednesday, December 22, 1976 on page 55750 in the first column, line 1 January 1977 is corrected to read January 31, 1977.

Dated: January 7, 1977.

EDWARD AGUIRRE,
United States Commissioner of Education.

[FR Doc.77-1070 Filed 1-11-77;8:45 am]

BASIC EDUCATIONAL OPPORTUNITY GRANT PROGRAM

Notice of Closing Date for Receipt of Applications for Determining Expected Family Contribution

Pursuant to the authority contained in Section 411(b) of Title IV, Part A, Subpart 1 of the Higher Education Act of 1965 as amended, (20 U.S.C. 1070a (b)(1)), notice is hereby given that the United States Commissioner of Education has established a final cutoff date for the receipt of applications for the determination of expected family contributions (student eligibility index) under the Basic Educational Opportunity Grant Program. Under this program the calculation of an expected family contribution is a prerequisite to receiving a Basic Educational Opportunity Grant.

1. In order to be eligible to receive a Basic Educational Opportunity Grant for the academic year ending June 30, 1977, applications for determining expected family contributions for the academic year 1976-77 must be submitted to BEOG, P.O. Box P, Iowa City, Iowa 52240, on or before March 15, 1977.

An application will be considered submitted on time if the application was received at P.O. Box P, Iowa City, Iowa no later than March 25, 1977.

2. Applicants may request a recomputation of their expected family contribution (student eligibility index) pursuant to § 190.39 and § 190.48 of the Basic Educational Opportunity Grant Program Regulations (45 CFR 190.39 and 190.48) because of extraordinary circumstances affecting the expected family contribution determination. Requests for such a recomputation shall be made by submitting the Supplemental Form for the 1976-77 academic year together with a new regular application form to BEOG, P.O. Box S, Iowa City, Iowa 52240. In order to be processed such application must be submitted on or before March 15, 1977.

An application and Supplemental Form will be considered submitted on time if they were received at P.O. Box S, Iowa City, Iowa no later than March 25, 1977.

3. Applicants may request a recomputation of their expected family contribution (student eligibility index) pursuant to § 190.15 of the Basic Educational Opportunity Grant Program Regulations (45 CFR 190.15) because of clerical or arithmetic error. Such requests must be submitted to BEOG, P.O. Box H, Iowa City, Iowa 52240 and must be received at that address on or before May 10, 1977 in order to be processed.

4. Applicants whose applications were submitted on a timely basis but were returned because of incomplete or inconsistent information must submit their corrected applications to BEOG, P.O. Box H, Iowa City, Iowa. Such corrected applications must be received on or before May 10, 1977 in order to be processed.

5. Information and application forms may be obtained at institutions of higher education, high schools, or from the Office of Education at the following address: BEOG, P.O. Box 84, Washington, D.C. 20044.

6. It should be noted that in order to receive a Basic Grant for an academic year a student must apply for such a grant by submitting an original copy of his Student Eligibility Report to the institution in which he is enrolled no later than May 31, 1977, or the end of his academic year, whichever comes first; except that if a student begins his enrollment after May 1, 1977, he must submit his Student Eligibility Report to the institution in which he is enrolled no later than June 30, 1977 (45 CFR 190.76). If a stu-

dent does not have the original copy of his Student Eligibility Report, he may request a duplicate Student Eligibility Report by writing to BEOG, P.O. Box H, Iowa City, Iowa 52240. However, please be advised that the processing time for such requests is generally four weeks. Furthermore, in no event will a request for a duplicate copy of the Student Eligibility Report for the academic year 1976–77 be processed if it is received after June 15, 1977.

(20 U.S.C. 1070a.)

(Catalog of Federal Domestic Assistance No. 13.539 Basic Educational Opportunity Grant Program.)

Dated: January 6, 1977.

EDWARD AGUIRRE,
Commissioner of Education.

[FR Doc.77-1069 Filed 1-11-77;8:45 am]

Office of the Assistant Secretary for Health

NATIONAL PROFESSIONAL STANDARDS REVIEW COUNCIL

Meeting

In accordance with section 10(a) (2) of the Federal Advisory Committee Act (Pub. L. 92–463), announcement is made of the following Council meeting:

Name: National Professional Standards Review Council.
Date and Time: January 24, 1977 (10:00 a.m. to 5:00 p.m.); January 25, 1977 (9:00 a.m. to 1:00 p.m.).
Place: Auditorium (first floor), DHEW North Building, 330 Independence Avenue, SW., Washington, D.C.
Purpose of Meeting: The Council was established to advise the Secretary of Health, Education, and Welfare on the administration of Professional Standards Review (Title XI, Part B, Social Security Act). Professional Standards Review is the procedure to assure that the services for which payment may be made under the Social Security Act are medically necessary and conform to appropriate professional standards for the provision of quality health care. The Council's agenda will include discussion of a variety of issues relevant to the implementation of the PSRO program.

Meeting of the Council is open to the public. Public attendance is limited to space available.

Any member of the public may file a written statement with the Council before, during, or after the meeting. To the extent that time permits, the Council Chairman may allow public presentation of oral statements at the meeting.

All communications regarding this Council should be addressed to William D. Coughlan, Staff Director, National Professional Standards Review Council, Office of Quality Standards, Room 16A–09, Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857.

Dated: December 20, 1976.

WILLIAM B. MUNIER,
Executive Secretary, National Professional Standards Review Council.

[FR Doc.77-1039 Filed 1-11-77;8:45 am]

Office of the Secretary

NATIONAL INSTITUTE OF EDUCATION

Statement of Organization, Functions, and Delegations of Authority

The Functional Statements for the Office of Governmental and External Relations (Section 12.20, C) and the Office of Public Affairs (Section 12.20, D) as published in the FEDERAL REGISTER (40 FR 37071, August 25, 1975) are deleted, and the Functional Statement for a new Office of Government and Public Affairs is substituted in their place. The new Functional Statement should be inserted as a new Section EN.20, C., and should read as follows:

C. Office of Government and Public Affairs: Responsible for planning, developing, and implementing a coordinated communications program to inform the Congress, State and local governments, education associations, minority communities, special interest groups, and the public of NIE activities and the policies of the National Council on Educational Research. The Office is also responsible for the development and coordination of comprehensive internal communications and publications program for the Institute.

Subsequent Sections, currently lettered E. through M., are relettered D. through L.

Dated: January 5, 1977.

JOHN OTTINA,
Assistant Secretary for Administration and Management.

[FR Doc.77-1040 Filed 1-11-77;8:45 am]

Public Health Service

IMMUNIZATION PRACTICES ADVISORY COMMITTEE

Meeting

In accordance with section 10(a) (2) of the Federal Advisory Committee Act (Public Law 92–463), the Center for Disease Control announces the following Committee meeting:

Name: Immunization Practices Advisory Committee.
Date: January 14, 1977.
Place: Room 207, Building 1, Center for Disease Control, 1600 Clifton Road NE., Atlanta, Georgia 30333.
Time: 1:00–4:30 p.m.
Type of Meeting: Open.
Contact Person: H. Bruce Dull, M.D., Executive Secretary of Committee, Building 1, Room 2118, Center for Disease Control, 1600 Clifton Road NE., Atlanta, Georgia 30333. Phone: AC/404 633–3311, Extension 3701. FTS: 236–3701.
Purpose: The Committee is charged with advising on the appropriate uses of immunizing agents for public health practice.
Agenda: The Committee will review the information on the association of Guillain-Barre syndrome and influenza vaccination.

The usual requirement for 15 days' advance notice of this emergency meeting is impossible to meet due to recent developments in the influenza immunization program.

Agenda items are subject to change as priorities dictate.

The meeting is open to the public for observation and participation. A roster of members and other relevant information regarding the meeting may be obtained from the contact person listed above.

Dated: January 6, 1977.

DAVID J. SENCER, M.D.,
Director,
Center for Disease Control.

[FR Doc.77-1208 Filed 1-11-77;10:19 am]

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[SAC 054898]

CALIFORNIA

Partial Termination of Proposed Withdrawal and Reservation of Lands

Correction

In FR Doc. 76–34601, appearing at page 51661, in the issue for Tuesday, November 23, 1976, change the number in the third line of the first paragraph, which now reads "954898" to read "054898".

[Oregon 012268]

OREGON

Termination of Proposed Withdrawal and Reservation of Lands

JANUARY 4, 1977.

Notice of an application filed by the United States Department of Agriculture on behalf of the Forest Service, Oregon 012268, for withdrawal and reservation of lands within the Siuslaw National Forest as the Oregon Dunes Recreation Area was published as FEDERAL REGISTER Document No. FR 62-7027 on pages 6904 and 6905 of the issue of July 20, 1962 and as FEDERAL REGISTER Document No. 62–8704 on pages 8681 and 8682 of the issue of August 30, 1962. The applicant agency has cancelled its application involving the lands described in the FEDERAL REGISTER publications referred to above. Therefore, pursuant to the regulations contained in 43 CFR 2091.2–5(b) (1) such lands will be at 10:00 a.m. on February 9, 1977, relieved of the segregative effect of the above-mentioned application.

With the enactment of Public Law 92–260 on March 23, 1972, all the lands are now included within the Oregon Dunes National Recreation Area.

HAROLD A. BERENDS,
Chief, Branch of
Lands and Minerals Operations.

[FR Doc.77-1061 Filed 1-11-77;8:45 am]

LEGAL SERVICES CORPORATION

BAYOU LA FOURCHE LEGAL SERVICE, INC. ET AL.

Notice of Grants and Contracts

JANUARY 7, 1977.

The Legal Services Corporation was established pursuant to the Legal Services Corporation Act of 1974, Pub. L. 93-355, 88 Stat. 378, 42 U.S.C. 2996–2996*l*. Section 1007(f) provides: "At least thirty days prior to the approval of any grant application or prior to entering into a contract or prior to the initiation of any other project, the Corporation shall announce publicly, and shall notify the Governor and the State Bar Association of any State where legal assistance will thereby be initiated, of such grant, contract, or project * * *"

The Legal Services Corporation hereby announces publicly that it is considering the grant applications submitted by:

1. Bayou LaFourche Legal Service, Inc. for Ascension, Assumption, LaFourche, St. James and Terreboune Parishes, Louisiana.
2. North Louisiana Legal Assistance Corporation for Ouachita, Morehouse, Richland and West Carroll Parishes, Louisiana.
3. Legal Services of Upper East Tennessee, Inc. for Carter, Greene, Hancock, Hawkins, Johnson, Sullivan, Unicoi and Washington Counties, Tennesssee.

Interested persons are hereby invited to submit written comments or recommendations concerning the above applications to the Regional Office of the Legal Services Corporation at:

Atlanta Regional Office, 615 Peachtree Street, N.E., Room 503, Atlanta, Georgia 30308.

THOMAS EHRLICH,
President.

[FR Doc.77-1072 Filed 1-11-77;8:45 am]

OFFICE OF SCIENCE AND TECHNOLOGY POLICY

INTERGOVERNMENTAL SCIENCE, ENGINEERING AND TECHNOLOGY ADVISORY PANEL

Notice of Meeting

In accordance with the Federal Advisory Committee Act, Pub. L. 92-463, the Office of Science and Technology Policy announces the following meeting:

Name: Intergovernmental Science Engineering and Technology Advisory Panel, Problem Identification Task Force.
Date: January 28, 1977.
Time: 10:00 a.m.–4:30 p.m.
Place: Airport Hilton Inn, Detroit Metropolitan Airport, Michigan.
Type of meeting: Open.
Contact person: Mr. Louis H. Blair, Office of Science and Technology Policy, Executive Office of the President, Washington, D.C. 20500. Telephone 202-395-4931. Anyone who plans to attend should contact Mr. Blair by January 25, 1977.
Summary minutes: May be obtained from the Executive Secretary of the Intergovernmental Science, Engineering and Technology Advisory Panel, New Executive Office Building, 726 Jackson Place NW., Washington, D.C. 20500.
Purpose of the Panel: The Panel is to identify state, regional and local government problems which research and technology may assist in resolving or ameliorating and to help develop policies to transfer research and development findings. The Problem Identification Task Force is to make recommendations to the Panel on the state, regional and local government problems where additional Federally-sponsored research or science and technology applications are most needed.

TENTATIVE AGENDA

Organization of the Task Force.
Discussion of future Task Force Activities.

WILLIAM J. MONTGOMERY,
Executive Officer, Office of Science and Technology Policy.

JANUARY 6, 1977.

[FR Doc.77-1055 Filed 1-11-77;8:45 am]

OHIO RIVER BASIN COMMISSION

MUSKINGUM RIVER BASIN COMPREHENSIVE COORDINATED JOINT PLAN

Availability of Adopted Plan

Pursuant to Section 204(3) of the Water Resources Planning Act of 1965 (PL 89-80), the Ohio River Basin Commission has adopted the Muskingum River Basin Comprehensive Coordinated Joint Plan for transmittal to the President and the Congress through the Water Resources Council.

Copies are available on request to the Ohio River Basin Commission, 36 East Fourth Street, Cincinnati, Ohio 45202.

FRED E. MORR,
Chairman.

[FR Doc.77-1063 Filed 1-11-77;8:45 am]

POSTAL RATE COMMISSION

NOTICE OF VISIT TO MAIL FACILITIES

JANUARY 6, 1977.

Notice is hereby given that employees of the Postal Rate Commission will visit mail facilities on the dates indicated for the purpose of observing the operations of these facilities relating to use of U.S. mail service.

No particular matter at issue in contested proceedings before the Commission nor the substantive merits of a matter that is likely to become a particular matter at issue in contested proceedings before the Commission will be discussed. A report of the visits will be on file in the Commission's docket room.

Place of visit	*Date of visit*
Radnor, Pa., Chilton Co.	Jan. 11, 1977.
Cleveland, Ohio, Penton—I.P.C.	Jan. 12, 1977.
Milwaukee, Wisc., McGraw-Hill	Jan. 13, 1977.

By direction of the Commission.

JAMES R. LINDSAY,
Secretary of the Commission.

[FR Doc.77-1064 Filed 1-11-77;8:45 am]

PRESIDENT'S COMMITTEE ON SCIENCE AND TECHNOLOGY

MEETING

In accordance with the Federal Advisory Committee Act, Pub. L. 92-463, the President's Committee on Science and Technology announces the following meeting:

Name: Pesident's Committee on Science and Technology.
Date and time: February 1, 1977 (9:00 to 5:30), February 2, 1977 (8:30 to 3:30).
Place: New Executive Office Building, 726 Jackson Place, N.W., Room 2008, Washington, D.C.
Type of meeting: Open.
Contact person: Mr. Philip E. Culbertson, Executive Director, President's Committee on Science & Technology, Executive Office of the President, New Executive Office Building, 726 Jackson Place, N.W., Washington, D.C. 20500, Telephone 202-395-4596. Anyone who plans to attend should contact Mr. Culbertson by January 28, 1977.
Summary minutes: May be obtained from the Executive Director, President's Committee on Science and Technology.
Purpose of the committee: The President's Committee on Science and Technology was established on October 29, 1976, to survey, examine, and analyze the overall context of Federal science, engineering and technology.

TENTATIVE AGENDA

FEBRUARY 1

9:00 a.m.	Discussion of Priorities and Scheduling of Committee Effort.
10:30 a.m.	Report on the President's Biomedical Research Panel, Dr. Franklin Murphy.
12:00 p.m.	Lunch.
1:00 p.m.	Scientific and Technical Information Handling and Dissemination—Lee Burchinal, NSF; William Knox, NTIS; David Hersey, SSIE.
4:00 p.m.	Committee discussion of above topics.
5:30 p.m.	Adjourn.

FEBRUARY 2

8:30 a.m.	Review of Committee Project Efforts.
9:00 a.m.	Considerations on Organizational Reform—Dr. Robert C. Seamans, Administrator, ERDA.
10:30 a.m.	Considerations on Organizational Reform—Dr. James C. Fletcher, Administrator, NASA.
12:00 p.m.	Lunch.
1:00 p.m.	Committee Considerations of Pros and Cons of Organizational Reform Options.
3:15 p.m.	Plans for April Meeting.
3:30 p.m.	Adjourn.

P. E. CULBERTSON,
Executive Director.

JANUARY 7, 1977.

[FR Doc.77-1062 Filed 1-11-77;8:45 am]

SMALL BUSINESS ADMINISTRATION

[Proposed License No. 02/02-0230]

MDC CAPITAL CORP.

Application for a License as a Small Business Investment Company

An application for a license to operate as a small business investment company under the provisions of the Small Business Investment Act of 1958, as amended (the Act) (15 U.S.C. 661 et seq.), has been filed by MDC Capital Corporation (the Applicant) with the Small Business Administration (SBA) pursuant to 13 CFR 107.102 (1976).

The Applicant with its principal place of business at 26 Springdale Road, Cherry Hill, New Jersey 08003, will begin operations with $1,000,000 private capital. All the stock of the Applicant will be sold to MDC Financial Corporation (Financial). Financial has one shareholder MDC Corporation (MDC). MDC and Financial have their principal offices at the same location as the Applicant. MDC's shares are traded on the American Stock Exchange and it has approximately 1,900 shareholders. Assuming that securities of the Applicant are issued for a $1,00,000 capital contribution, such securities would constitute approximately 3.6 percent of the gross assets of MDC.

The Applicant recognizes the need for establishment of a broad financing policy to meet the needs of small business concerns. The Applicant expects a major portion of its portfolio will consist of collateralized loans; however, the Applicant will be receptive to equity type investments including those utilizing convertible debentures. The Applicant intends to render management consulting services to clients when so requested.

The proposed officers and directors of the Applicant are as follows:

Name and Title

Gilbert N. Zitin, Chairman and Chief Executive Officer; Director. 110 Uxbridge, Cherry Hill, New Jersey 08034.

Bernard J. Greenspan, President and Chief Administrative Officer; Director. 4 Withington Road, Scarsdale, New York 10583.

Joseph F. Morgan, Vice President; Director. 97 Carlton Avenue, Marlton, New Jersey 08053.

Frank J. Damico, Vice President. 3466 New Jersey Avenue, Pennsauken, New Jersey 08109.

Charles R. Mannella, Treasurer. 104 Quince Drive, Hatboro, Pennsylvania 19040.

Wayne G. Trego, Controller. 29 Potter Lane, Willingboro, New Jersey 08046.

E. Clinton Swift, Jr., Secretary. 711 Old Lancaster Road, Bryn Mawr, Pennsylvania 19010.

Matters involved in SBA's consideration of the Applicant include general business reputation and character of the proposed owners and management, and the probability of successful operation of the Applicant under their management, including adequate profitability and financial soundness, in accordance with the Act and the SBA Regulations.

Any person may, on or before January 27, 1977, submit to SBA written comments on the proposed Applicant. Any such communications should be addressed to the Deputy Associate Administrator for Investment, Small Business Administration, 1441 "L" Street, NW., Washington, D.C. 20416.

A similar copy of this notice shall be published in a newspaper of general circulation in Cherry Hill, New Jersey.

(Catalog of Federal Domestic Assistance Programs No. 59.011, Small Business Investment Companies.)

Dated: December 29, 1976.

PETER F. MCNEISH,
Deputy Associate Administrator for Investment.

[FR Doc.77-1067 Filed 1-11-77;8:45 am]

INTERSTATE COMMERCE COMMISSION

[Notice No. 302]

ASSIGNMENT OF HEARINGS

JANUARY 7, 1977.

Cases assigned for hearing, postponement, cancellation or oral argument appear below and will be published only once. This list contains prospective assignments only and does not include cases previously assigned hearing dates. The hearings will be on the issues as presently reflected in the Official Docket of the Commission. An attempt will be made to publish notices of cancellation of hearings as promptly as possible, but interested parties should take appropriate steps to insure that they are notified of cancellation or postponements of hearings in which they are interested.

MC 67866 (Sub-No. 31), Film Transit, Inc., now assigned January 18, 1977, at Memphis, Tenn., will be held at the Travelodge at Perimeter Park, 2490 Mt. Moriah Road instead of Room 396, Federal Building, 167 North Main Street.

MC-C-8995, Dugan Truck Lines, Inc.—Investigation and Revocation of Certificates and Certificates of Registration and MC 120657 (Sub-No. 6), Dugan Truck Line, Inc., now being assigned for continued hearing on January 10, 1977, at Wichita, Kans.

MC 141114 (Sub-No. 1), Retailers Delivery Facility Co., Inc., now assigned January 25, 1977, at Washington, D.C., is canceled and application dismissed.

F.D. 28250, New York Dock Railway—Control—Brooklyn Eastern District Terminal and F.D. 28294, New York Dock Railway, now assigned February 7, 1977, at New York, N.Y. (2 weeks), will be held in Room F-2220, Federal Bldg., 26 Federal Plaza.

MC 113908, Sub 241, Erickson Transport Corp., now assigned February 23, 1977, at Kansas City, Mo., will be held in Room 609, Federal Office Bldg., 911 Walnut Street.

MC 140361, Sub 4, Columbus Parcel Service, Inc., now assigned January 18, 1977, at days), at Columbus, Ohio, will be held in Room 235, Federal Bldg., 85 Marconi Blvd.

MC 117940, Sub 179, Nationwide Carriers, Inc., now assigned January 18, 1977, at New York, N.Y., is cancelled and application dismissed.

MC C9106, Freightways Express, Inc.- v. Seco Trucking, Inc., now assigned January 13, 1977, Little Rock, Ark., has been postponed indefinitely.

MC 110144 (Subs-17 and 18), Jack C. Robinson, d/b/a Robinson Freight Lines, now assigned February 7, 1977, at *Morristown*, Tennessee, has been transferred to February 7, 1977 (1 week), at *Cleveland*, Tennessee, in the Holiday Inn—Downtown, Highways 11 and 64.

ROBERT L. OSWALD,
Secretary.

[FR Doc.77-1081 Filed 1-11-77;8:45 am]

[Amdt. No. 2 to Exemption No. 127]

EXEMPTION UNDER PROVISION OF RULE 19 OF THE MANDATORY CAR SERVICE RULES ORDERED IN EX PARTE NO. 241

Upon further consideration of Exemption No. 127 issued June 29, 1976.

It is ordered, That, under authority vested in me by Car Service Rule 19, Exemption No. 127 to the Mandatory Car Service Rules ordered in Ex Parte No. 241 be, and it is hereby, amended to *expire February 28, 1977*.

This amendment shall become effective December 31, 1976.

Issued at Washington, D.C., December 23, 1976.

INTERSTATE COMMERCE COMMISSION,
LEWIS R. TEEPLE,
Agent.

[FR Doc.77-1085 Filed 1-11-77;8:45 am]

[AB 43 (Sub-Nos. 13, 18, 19)]

ILLINOIS CENTRAL GULF RAILROAD CO.

Abandonment of Services

DECEMBER 23, 1976.

Illinois Central Gulf Railroad Company abandonment between Croft and Sherman in Sangamon and Menard Counties, Illinois; abandonment between San Jose and Croft in Menard and Logan Counties, Illinois; and abandonment between Grove and San Jose, in Mason and Tazewell Counties, Illinois.

The Interstate Commerce Commission hereby gives notice that: 1. The Commission's Section of Energy and Environment has prepared an environmental threshold assessment survey in the above-entitled proceedings in which it was concluded that the proceedings do not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321, et seq. 2. A notice setting forth this conclusion was served November 9, 1976, and no substantive comments in opposition, of an environmental nature, have been received by the Commission in response to said notice. 3. These proceedings are now ready for further disposition within the Office of Hearings or the Office of Proceedings as appropriate.

ROBERT L. OSWALD,
Secretary.

[FR Doc.77-1082 Filed 1-11-77;8:45 am]

[AB 43 (Sub-No. 22)]

ILLINOIS CENTRAL GULF RAILROAD CO.

Abandonment Between Yazoo Junction and Belzoni in Yazoo and Humphreys Counties, Mississippi

DECEMBER 23, 1976.

The Interstate Commerce Commission hereby gives notice that: 1. The Commission's Section of Energy and Environment has prepared an environmental threshold assessment survey in the above-entitled proceeding in which it was concluded that the proceeding does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321, *et seq.* 2. A notice setting forth this conclusion was served November 8, 1976, and no substantive comments in opposition, of an environmental nature, have been received by the Commission in response to said notice. 3. This proceeding is now ready for further disposition within the Office of Hearings or the Office of Proceedings as appropriate.

ROBERT L. OSWALD,
Secretary.

[FR Doc.77-1087 Filed 1-11-77;8:45 am]

IRREGULAR-ROUTE MOTOR COMMON CARRIERS OF PROPERTY

Elimination of Gateway Letter Notices

JANUARY 7, 1977.

The following letter-notices of proposals to eliminate gateways for the purpose of reducing highway congestion, alleviating air and noise pollution, minimizing safety hazards, and conserving fuel have been filed with the Interstate Commerce Commission under the Commission's *Gateway Elimination* Rules (49 CFR 1065), and notice thereof to all interested persons is hereby given as provided in such rules.

An original and two copies of protests against the proposed elimination of any gateway herein described may be filed with the Interstate Commerce Commission on or before January 22, 1977. A copy must also be served upon applicant or its representative. Protests against the elimination of a gateway will *not* operate to stay commencement of the proposed operation.

Successively filed letter-notices of the same carrier under these rules will be numbered consecutively for convenience in identification. Protests, if any, must refer to such letter-notices by number.

No. MC 46990 (Sub-No. E42), filed June 4, 1974. Applicant: TRANS-COUNTRY VAN LINES, INC., 3300 Veteran Highway, Bohemia, N.Y. 11716. Applicant's representative: Robert J. Gallagher, 1000 Connecticut Ave., N.W., Suite 1200, Washington, D.C. 20036. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Household goods*, as defined by the Commission, between points in New Jersey, on the one hand, and, on the other, points in Ohio and points in Pennsylvania in and west of Potter, Clinton, Centre, Huntingdon and Fulton Counties. The purpose of this filing is to eliminate the gateway of Philadelphia, Pa.

No. MC 46990 (Sub-No. E52), filed June 4, 1974. Applicant: TRANS-COUNTRY VAN LINES, INC., 3300 Veteran Highway, Bohemia, N.Y. 11716. Applicant's representative: Robert J. Gallagher, 1000 Connecticut Ave., N.W., Suite 1200, Washington, D.C. 20036. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Household goods*, as defined by the Commission, between points in New Castle County, Del., on the one hand, and, on the other, points in Tennessee, Texas, and West Virginia. The purpose of this filing is to eliminate the gateway of Philadelphia, Pa.

No. MC 46990 (Sub-No. E53), filed June 4, 1974. Applicant: TRANS-COUNTRY VAN LINES, INC., 3300 Veteran Highway, Bohemia, N.Y. 11716. Applicant's representative: Robert J. Gallagher, 1000 Connecticut Ave., N.W., Suite 1200, Washington, D.C. 20036. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Household goods*, as defined by the Commission, between points in the District of Columbia, on the one hand, and, on the other, points in Connecticut, Kansas, and points in Arkansas on and west of a line beginning at the Texas-Arkansas State line and extending along U.S. Highway 67 to junction U.S. Highway 65, thence along U.S. Highway 65 to the Arkansas-Missouri State line. The purpose of this filing is to eliminate the gateway of Philadelphia, Pa.

No. MC 46990 (Sub-No. E60), filed June 4, 1974. Applicant: TRANS-COUNTRY VAN LINES, INC., 3300 Veteran Highway, Bohemia, N.Y. 11716. Applicant's representative: Robert J. Gallagher, 1000 Connecticut Ave., N.W., Suite 1200, Washington, D.C. 20036. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Household goods*, as defined by the Commission, between points in the City of Baltimore and Baltimore County, on the one hand, and, on the other, points in Tennessee on and west of Interstate Highway 65. The purpose of this filing is to eliminate the gateway of Philadelphia, Pa.

No. MC 92983 (Sub-No. E21) (correction), filed June 4, 1974, published in the FEDERAL REGISTER issue of December 23, 1975, and republished as partially corrected, this issue. Applicant: AMERICAN BULK TRANSPORT CO., P.O. Box 2508 Kansas City, Mo. 64142. Applicant's representative: Sheldon Silverman, Suite 550 Federal Bar Building West, 1819 H St., N.W., Washington, D.C. 20006. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: (H) *Acids and chemicals* (except petroleum chemicals from within 150 miles of Henderson, Tex., and except liquid petroleum gases and except oakite compound from Baton Rouge and except anhydrous ammonia, nitrogen solutions and nitric acid from Luling, La.), in bulk, in tank vehicles, (1) From points in Louisiana, to points in Idaho, Montana, North Dakota, South Dakota, and Wyoming; (2) from points in Louisiana, located in and west of Union, Lincoln, Jackson, Caldwell, La Salle, Avoyelles, Pointe Coupee, Ibervile, Assumption, and Terrebonne Parishes to points in California located in and north af Marin, Napa, Solano, Sacramento, Amador, and Alpine Counties, to points in Nevada located in and north of Douglas, Lyon, Churchill, Lander, Eureka, and White Pine Counties, to points in Oregon and points in Utah, located in and north of Juab, Utah, Carbon and Unitah Counties; * * * (H) (5) From points in Louisiana located in and west of Caddo, Red River, Natchitoches, Vernon, Allen, Evangeline, Acadia, Lafayette and Vermilion Parishes to points in Iowa and to points in Missouri located in and west of Cass, Johnson, Saline, Chariton, Macon, Knox and Clark Counties; (5) (A) from points in Louisiana located in and west of Union, Lincoln, Jackson, Winn, Grant, Rapides, Evangeline, Acadia and Vermilion Parishes to points in Colorado located in and north of Garfield, Eagel, Summit, Clear Creek, Jefferson, Douglas, and Kit Carson Counties and points in Elbert and Lincoln Counties located on and north of U.S. Highway 24, to points in Kansas located in and north of Sherman, Thomas, Sheridan, Graham, Rooks, Osborne, Mitchell, Ottawa, Clay, Geary, Wabuansee, Shawnee, Douglas, and Johnson Counties and to points in Nebraska, * * * (J) (3) *Vegetable Oil and vegetable oil products*, in bulk in tank vehicles, from points in Louisiana located in and west of Union, Ouachita, Caldwell, La Salle, Rapides, Evangeline, Acadia, and Vermilion Parishes (except those points in Louisiana described in (2) above) to points in Delaware, Indiana, Kentucky, Maryland, New Jersey, North Carolina, and Ohio, to points in South Carolina (except Jasper County) and to points in Virginia, and West Virginia; * * *

(K) (2) *Soybean oil, corn oil and salad oil, in* bulk, in tank vehicles, from points in Louisiana located in Morehouse, Ouachita, Caldwell, La Sallé, Avoyelles, St. Landry, Lafayette, Iberia, St. Mary, St. Martin, Iberville, Pointe Coupee, West Feliciana, Concordia, Catahoula, Tensas, Franklin, Madison, Richland, West Carroll, and East Carroll Parishes to points in North Dakota to points in South Dakota located in and north of Brookings, Kingsbury, Beadle, Hand, Hyde, Hughes, Stanley, and Haakon counties and points in Pennington County located on west and north of a line extending from the southern border along the Cheyenne River to the junction of U.S. Highway 16, thence along U.S. Highway 16 to the eastern border; (3) from points in Louisiana located in and east of East Feliciana, East Baton Rouge, West Baton Rouge, Ascension, Assumption, and Terrebonne Parishes to points in North Dakota and South Dakota; * * * (Q) (1) *Acetic acid*, in bulk, in tank vehicles, from points in Louisiana (except Cotton Valley) located in and north and west of Morehouse, Ouachita, Jackson, Winn, Natchitoches, and Sabine Parishes to points in Georgia located in and north of Chatham, Effingham, Jenkins, Burke, Jefferson, Washington, Hancock, Putnam, Jasper, Newton, Rockdale, De Kalb, Douglas, Paulding, and Polk Counties and points in Alabama located in Cherokee, Etowah, De Kalb, Jackson, Marshall, Madison, Morgan, Limeston, Lawrence, Lauderdale, and Colbert Counties; * * * (T) (5) *Acids and chemicals*, in bulk, from points in Louisiana located in and east of Webster, Bienville, Red River, Natchitoches, Rapides, Evangeline, Acadia, and Vermillion Parishes (except Plaquemines and 10 miles thereof and except the plant of the Monsanto Chemical Co. New Luling, La.) to points in California located in San Mateo, Alameda, Stanislaus Merced, Mariposa, Madera, Santa Clara and Santa Cruz Counties; * * * The purpose of this filing is to eliminate the gateways: (R) (5) Missouri and Champaign, Ill., (6) Missouri and Kansas; * * *

NOTE.—The purpose of this partial republication is to correct the following: (H) (2) correct spelling of NAPA; (H) (5) renumber paragraphs to read 5 and 5A respectively; (J) (3) add destination state of New Jersey, previously omitted; (K) (2) correct spelling of Haakon instead of Kaakon; (Q) (1) correct spelling of De Kalb instead of De Kald; (T) (5) correct territorial description; (R) (5) (6) correct the gateway. The remainder of this letter-notice remains as previously published.

No. MC 92983 (Sub-No. E22) (Partial correction), filed June 4, 1974, published in the FEDERAL REGISTER issue of December 4, 1975, and republished, as corrected, this issue. Applicant: AMERICAN BULK TRANSPORT CO., 818 Grand Avenue, P.O. Box 2508, Kansas City, Mo. 64142. Applicant's representative: H. B. Foster (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: (G) (4) *Vegetable oils and vegetable oil products*, (except soap products and paint), in bulk, in tank vehicles, from points in Kentucky located on and north of Jefferson, Spencer, Anderson, Woodford, Fayette, Bourbon, Montgomery, Bath, Rowan, Elliott, and Lawrence Counties, to points in Alabama located in Mobile and Baldwin Counties and to points in Mississippi located in, south and west of Marshall, Lafayette, Calhoun, Webster, Oktibbeha, Winston, Neshoba, and Lauderdale Counties (except those points in Mississippi and described in (3) above); In the footnote to the notice of gateways to be eliminated (which were omitted on initial publication) are Items (B) (4) to (B) (7) Olanthe, Kans. (a point in the Kansas City, Mo.-Kansas Commercial Zone); gateway to be eliminated for (J) (7) is Saginaw, Mo., and points within 15 miles thereof, and (M) (21) should be corrected to read (M) (2). The purpose of this partial republication is to correct the commodity description in (G) (4) and to complete the footnote notice of elimination of gateways. The remainder of this letter-notice remains as previously published.

No. MC 92983 (Sub-No. E69) (Correction), filed June 4, 1974, published in the FEDERAL REGISTER issue of June 23, 1976, and republished, as corrected, this issue. Applicant: AMERICAN BULK TRANSPORT CO., P.O. Box 2508, Kansas City, Mo. 64142. Applicant's representative: Sheldon Silverman, Suite 550, Federal Bar Building West, 1819 H St., N.W., Washington, D.C. 20006. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: (M) *Such fats and grease* (as are embraced within acids and chemicals) in bulk, in tank vehicles, from points in Utah to points in Maine, New Hampshire, and Vermont; (N) *Such fats and oils and blends and products* thereof (as are embraced within acids and chemicals) except fats oils and blends, and products thereof derived from petroleum, soap products, and paints) in bulk, in tank vehicles, from points in Utah to points in Florida; (O) *acids and chemicals*, in bulk, in tank or hopper vehicles from points in Utah to points in the upper peninsula of Michigan located in and east and south of a line extending from the Michigan-Wisconsin State line along Michigan Highway 95, including the Iron Mountain, Mich. Commercial Zone, to the junction of unnumbered highway at Sagola, Mich., thence along unnumbered highway through Ralph, Mich., to the junction of Michigan Highway 35, thence along Michigan Highway 35 to the junction of unnumbered highway at Forsyth, Mich., thence along unnumbered highway through Carlshend, Mich., to the junction of U.S. Highway 41, thence along U.S. Highway 41 to the western border of Alger County; (W) (1) *Malt syrup* for use as feed, in bulk, in tank vehicles (1) from points in Utah to points in Indiana (except those located west of United States Highway 41 from the Ohio River to the Wabash River but not including the Evansville or Vincennes, Ind. Commercial zones), Michigan, and Ohio. The purpose of this partial republication is to correct the commodity descriptions. The remainder of this letter-notice remains as previously published.

No. MC 92983 (Sub-No. E80) (Correction), filed June 4, 1974, published in the FEDERAL REGISTER issue of July 14, 1976, and partially republished, as corrected, this issue. Applicant: AMERICAN BULK TRANSPORT CO., P.O. Box 2508, Kansas City, Mo. 64142. Applicant's representative: Sheldon Silverman, Suite 550, Federal Bar Building West, 1819 H St., N.W., Washington, D.C. 20006. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: (W) (4) *Molasses*, in bulk, in tank vehicles, from points in Washington located in and west of Whatcom, Skagit, Snohomish, King, Kittitas, Yakima, and Klickitat Counties to points in Wisconsin located in Crawford, Richland, Vernon, LaCrosse, Monroe, Juneau, Adams, Marquette, Waushara, Portage, Waupaca, Outagamie, Shawano, and Menominee Counties, and that portion of Oconto and Marquette Counties on and south of Wisconsin Highway 64 including Marinette. The purpose of this partial republication is to correct the commodity description and add counties in Wisconsin previously omitted. The remainder of this letter-notice remains as previously published.

No. MC 92983 (Sub-No. E81) (Correction), filed June 4, 1974, published in the FEDERAL REGISTER issue of July 14, 1976, partially republished, as corrected, this issue. Applicant: AMERICAN BULK TRANSPORT CO., P.O. Box 2508, Kansas City, Mo. 64142. Applicant's representative: Sheldon Silverman, Suite 550, Federal Bar Building West, 1819 H St., N.W., Washington, D.C. 20006. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: (C) (1) *Animal fats and oils*, in bulk, in tank vehicles: (1) from points in Washington to points in Alabama, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois except Chicago, Chicago Heights, East St. Louis, Decatur, and Rockford, Indiana, Kentucky, Maine, Massachusetts, Maryland, New Hampshire, New Jersey, New York, except New York City and Port Ivory, North Carolina, Ohio, except Cincinnati and Ivorydale, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia and West Virginia. The purpose of this partial republication is to correct the spelling of destination state, North Carolina. The remainder of this letter-notice remains as previously published.

No. MC 95540 (Sub-No. E45) (Correction), filed April 15, 1974, published in the FEDERAL REGISTER issue of May 13, 1974 and October 14, 1976, and December 1, 1976, and republished, as corrected, this issue. Applicant: WATKINS MOTOR LINES, INC., P.O. Box 1636, Lakeland, Fla. 33802. Applicant's representative: Benjy W. Fincher (same as above).

Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Meats, meat products, and meat by-products*, as described in Section A of Appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209 and 766 (except commodities in bulk, in tank vehicles), from Dade City, Fla., to points in North Carolina on and west of a line beginning at Corncake Inlet on the Atlantic Ocean, thence north along U.S. Highway 421 to the Wilmington, N.C., thence along U..S Highway 17 to junction U.S. Highway 264, thence along U.S. Highway 264 to junction North Carolina Highway 32, thence along North Carolina Highway 32 to junction U.S. Highway 64, thence along U.S. Highway 64 to junction North Carolina Highway 32, thence along North Carolina Highway 32 to junction U.S. Highway 17, thence along U.S. Highway 17 to Elizabeth City, thence along North Carolina Highway 168 to the Virginia-North Carolina State line. The purpose of this filing is to eliminate the gateway of Tifton, Ga.

NOTE.—The purpose of this correction is to state the correct territorial description.

No. MC 95540 (Sub-No. E509) (Correction), filed May 16, 1974, published in the FEDERAL REGISTER issue of August 6, 1974, October 14, 1976, and December 1, 1976, and republished, as corrected, this issue. Applicant: WATKINS MOTOR LINES, INC., P.O. Box 1636, Lakeland, Fla. 33802. Applicant's representative: Benjy W. Fincher (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Bananas and coconuts and pineapples*, when moving in the same vehicle and at the same time with bananas, from points in Georgia on or east of U.S. Highway 301 (except points on U.S. Highway 1), to points in Florida on or south of a line beginning at Cedar Key and extending along Florida Highway 24 to junction Florida Highway 345, thence along Florida Highway 345 to Chiefland, thence along U.S. Highway 129 to junction Florida Highway 26, thence along Florida Highway 26 to Gainesville, thence along Florida Highway 24 to Waldo, thence along U.S. Highway 301 to junction Florida Highway 16, thence along Florida Highway 16 to junction Florida Highway 215, thence along Florida Highway 215, to junction U.S. Highway 17, thence along U.S. Highway 17 to junction Interstate Highway 95, thence along Interstate Highway 95 to junction U.S. Highway 90, thence along U.S. Highway 90 to Jacksonville Beach. The purpose of this filing is to eliminate the gateway of Tifton, Ga.

NOTE.—The purpose of this correction is to state the correct territorial description.

No. MC 95540 (Sub-No. E711) (Correction), filed May 22, 1974, published in the FEDERAL REGISTER issue of April 3, 1975, and republished, as corrected, this issue. Applicant: WATKINS MOTOR LINES, INC., P.O. Box 1636, Lakeland, Fla. 33802. Applicant's representative: Benjy W. Fincher (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Canned citrus products*, in mixed loads with citrus products, not canned and not frozen, from those points in Florida on or east of U.S. Highway 231, to points in Missouri. The purpose of this filing is to eliminate the gateway of Doraville, Ga.

NOTE.—The purpose of this correction is to state the correct commodity description.

No. MC 105045 (Sub-No. E155), filed November 28, 1975. Applicant: R. L. JEFFRIES TRUCKING C., INC., P.O. Box 3277, Evansville, Ind. 47701. Applicant's representative: George H. Veech (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Aluminum and aluminum articles* (except commodities in bulk) which, because of their size or weight, require the use of special equipment, except machinery, equipment, materials, and supplies used in, or in connection with the discovery, development, production, refining, manufacturing, processing, storage, transmission, and distribution of natural gas and petroleum and their products and by-products, machinery, materials, equipment, and supplies used in, or in connection with, the construction, operation, repair, picking up of pipe except the stringing or picking up of pipe in connection with main or trunk pipe lines, between points in Georgia, Florida, Alabama, Ohio and Tennessee, on the one hand, and, on the other, points in Minnesota. The purpose of this filing is to eliminate the gateway from the facilities of Amax Aluminum Mill Products, Inc., in Grundy County, Ill.

No. MC 105045 (Sub-No. E156), filed November 28, 1975. Applicant: R. L. JEFFRIES TRUCKING CO., INC., P.O. Box 3277, Evansville, Ind. 47701. Applicant's representative: George H. Veech (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Aluminum and aluminum articles* (except commodities in bulk) which, because of their size or weight, require the use of special equipment, except machinery, equipment, materials, and supplies used in, or in connection with the discovery, development, production, refining, manufacture processing, storage, transmission and distribution of natural gas and petroleum and their products and by-products, machinery, materials, equipment, and supplies used in, or in connection with, the construction, operation, repair, picking up of pipe except the stringing or picking up of pipe in connection with main or trunk pipe lines, between points in Texas on and north and west of a line beginning at the Texas-Louisiana State line, and extending along Texas Highway 21 to junction Interstate Highway 35, thence along Interstate Highway 35 to the International Boundary between United States and Mexico, on the one hand, and, on the other, points in Delaware. The purpose of this filing is to eliminate the gateway from the facilities of Amax Aluminum Mill Products, Inc., in Grundy County, Ill.

No. MC 105813 (Sub-No. E51), filed December 19, 1975. Applicant: BELFORD TRUCKING CO., INC., P.O. Box 1936, Ocala, Fla. 32670. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting *Frozen foods*, except commodities in bulk, from the facilities of Kitchens of Sara Lee at New Hampton, Iowa, to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along Mississippi Highway 42 to junction U.S. Highway 11, thence south along U.S. Highway 11 to junction U.S. Highway 98, thence west along U.S. Highway 98 to junction Mississippi Highway 35, thence south along Mississippi Highway 35 to the Louisiana-Mississippi State line. Restriction: The operations authorized herein are restricted to the transportation of traffic originating at the above-named origin. The purpose of this filing is to eliminate the gateway of points in Florida.

No. MC 10583 (Sub-No. E52), filed December 19, 1975. Applicant: BELFORD TRUCKING CO., INC., P.O. Box 1936, Ocala, Fla. 32670. Applicant's representative: Arthur J. Sibik, 7000 South Pulaski Road, Chicago, Ill. 60629. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Foodstuffs* (except commodities in bulk), from Pana, Ill., to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along Mississippi Highway 594 to junction Mississippi Highway 63, thence west along Mississippi Highway 63 to junction Mississippi Highway 57, thence west along Mississippi Highway 57 to junction Mississippi Highway 26, thence west along Mississippi Highway 26 to junction U.S. Highway 11, thence south along U.S. Highway 11 to junction Interstate Highway 59, thence south along Interstate Highway 59 to the Louisiana-Mississippi State line and to those points in South Carolina on and south of a line beginning at the Atlantic Ocean and extending west along U.S. Highway 21 to junction South Carolina Highway 170, thence west along South Carolina Highway 170 to junction U.S. Highway 278, thence north along U.S. Highway 278 to junction South Carolina Highway 336, thence west along South Carolina Highway 336 to junction U.S. Highway 321-601, thence south along U.S. Highway 321-601 to the Georgia-South Carolina State line. The purpose of this filing is to eliminate the gateway of points in Florida.

No. MC 105813 (Sub-No. E53), filed December 19, 1975. Applicant: BELFORD TRUCKING CO., INC., P.O. Box 1936, Ocala, Fla. 32670. Applicant's representative: Arthur J. Sibik, 7000 South Pulaski Road, Chicago, Ill. 60629. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Confectionery* (except in bulk), in vehicles equipped with mechanical refrigeration, from the plant site and storage facilities of M & M/Mars, a division of Mars, Incorporated at Albany, Ga., to points in Arkansas, Connecticut, Delaware, Iowa, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nebraska, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Virginia, West Virginia, and Wisconsin. Restriction: The authority granted herein is restricted to the transportation of shipments originating at the above-named facilities. (2) *Confectionery* (except in bulk), in vehicles equipped with mechanical refrigeration, from the plant site and storage facilities of M & M/Mars, a division of Mars, Incorporated at Atlanta, Decatur, and Doraville, Ga., to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along U.S. Highway 45 to junction U.S. Highway 84, thence west along U.S. Highway 84 to the Louisiana-Mississippi State line, and to those points in Texas on and south of a line beginning at the Louisiana-Texas State line and extending west along Texas Highway 77 to junction U.S. Highway 67, thence west along U.S. Highway 67 to junction U.S. Highway 271, thence north along U.S. Highway 271 to the Oklahoma-Texas State line, and to those points in Oklahoma on, west, and south of a line beginning at the Oklahoma-Texas State line and extending north along U.S. Highway 271 to junction U.S. Highway 70, thence west along U.S. Highway 70 to junction U.S. Highway 81, thence north along U.S. Highway 81 to junction Oklahoma Highway 7.

Thence north and west along Oklahoma Highway 7 to junction U.S. Highway 62, thence west along U.S. Highway 62 to the Oklahoma-Texas State line, and to those points in Texas on and south, and west of a line beginning at the Oklahoma-Texas State line and extending west along U.S. Highway 62 to junction U.S. Highway 83, thence north along U.S. Highway 83 to the Oklahoma-Texas State line, and to those points in Oklahoma on and west of a line beginning at the Oklahoma-Texas State line and extending north along U.S. Highway 83 to the Kansas-Oklahoma State line, and to those points in Nebraska on and west of a line beginning at the Colorado-Nebraska State line and extending north along Nebraska Highway 19 to junction U.S. Highway 385, thence north along U.S. Highway 385 to junction Nebraska Highway 87, thence north along Nebraska Highway 87 to junction U.S. Highway 20, thence west along U.S. Highway 20 to the Nebraska-Wyoming State line. Restriction: The authority granted herein is restricted to the transportation of shipments originating at the above-named facilities. The purpose of this filing is to eliminate the gateway of points in Florida.

No. MC 105813 (Sub-No. E54), filed December 19, 1975. Applicant: BEEFORD TRUCKING CO., INC., P.O. Box 1936, Ocala, Fla. 32670. Applicant's representative: Arthur J. Sibik, 7000 South Pulaski Rd., Chicago, Ill. 60629. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Confectionery*, except commodities in bulk, from Naugatuck, Conn., to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along U.S. Highway 84 to the Louisiana-Mississippi State line, and to those points in Texas on and south of a line beginning at the Louisiana-Texas State line and extending west along U.S. Highway 84 to junction U.S. Highway 67, thence west along U.S. Highway 67 to junction U.S. Highway 87, thence west along U.S. Highway 87 to junction U.S. Highway 80, thence west along U.S. Highway 80 to the New Mexico-Texas State line. The purpose of this filing is to eliminate the gateway of Jacksonville, Fla.

No. MC 105813 (Sub-No. E55), filed December 19, 1975. Applicant: BELFORD TRUCKING CO., INC., P.O. Box 1936, Ocala, Fla. 32670. Applicant's representative: Arthur J. Sibik 7000 South Pulaski Rd., Chicago, Ill. 60629. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Edible meats, edible meat products and edible meat by-products, and edible articles distributed by meat packinghouses*, as described in Sections A and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209, except commodities in bulk, from New York, N.Y., and points in New York, and New Jersey, within 15 miles of New York, N.Y., to those points in that part of Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along U.S. Highway 82 to junction Mississippi Highway 9, thence north along Mississippi Highway 9 to junction Mississippi Highway 8, thence west along Mississippi Highway 8 to the Arkansas-Mississippi State line, and points in that part of Arkansas on and south of a line beginning at the Arkansas-Mississippi State line and extending west along Arkansas Highway 4 to junction U.S. Highway 70, thence west along U.S. Highway 70 to the Arkansas-Oklahoma State line, and to those points in Oklahoma on and south of a line beginning at Arkansas-Oklahoma State line and extending west along U.S. Highway 70 to the Oklahoma-Texas State line, and to those points in Texas beginning at the Oklahoma-Texas State line and extending south and west along U.S. Highway 70 to junction U.S. Highway 287 to junction U.S. Highway 66, thence west along U.S. Highway 66 to the New Mexico-Texas State line, and those points in California on and south and west of a line beginning at the Arizona-California State line and extending west along U.S. Highway 40 to junction with California Highway 58, thence west along California Highway 58 to junction California Highway 65, thence north along California Highway 65 to junction California Highway 198, thence west along California Highway 198 to junction California Highway 99, thence north along California Highway 99 to junction California Highway 17, thence west along California Highway 17 to junction California Highway 1, thence west along California Highway 1 to the Pacific Ocean. The purpose of this filing is to eliminate the gateways of Jacksonville, Fla., and points in Florida.

No. MC 105813 (Sub-No. E56), filed December 19, 1975. Applicant: BELFORD TRUCKING CO., INC., P.O. Box 1936, Ocala, Fla. 32670. Applicant's representative: Arthur J. Sibik 7000 South Pulaski Rd., Chicago, Ill. 60629. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Fresh meats, and Packing House Products*, except in bulk, in tank vehicles, (a) from Philadelphia, Pa., to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along Mississippi Highway 18 to junction U.S. Highway 80, thence west along U.S. Highway 80 to the Louisiana-Mississippi State line, and those points in Texas on and south of a line beginning at the Arkansas-Texas State line and extending west along Texas Highway 77 to junction U.S. Highway 67, thence west along U.S. Highway 67 to junction U.S. Highway 380, thence west along U.S. Highway 380 to junction U.S. Highway 83, thence north along U.S. Highway 83 to junction U.S. Highway 82, thence west along U.S. Highway 82 to junction Texas Highway 70, thence north along Texas Highway 70 to junction U.S. Highway 70, thence west along U.S. Highway 70 to the New Mexico-Texas State line, (b) from Philadelphia, Pa., to those points in California on and west of a line beginning at the Arizona-California State line and extending west along Interstate Highway 8 to junction Interstate Highway 5, thence north along Interstate Highway 5 to junction U.S. Highway 101, thence north along U.S. Highway 101 to junction California Highway 68, thence west along California Highway 68 to the Pacific Ocean. The purpose of this filing is to eliminate the gateways of Jacksonville, Fla., and points in Florida.

No. MC 105813 (Sub-No. E57), filed December 19, 1975. Applicant: BELFORD TRUCKING CO., INC., P.O. Box 1936, Ocala, Fla. 32670. Applicant's representative: Arthur J. Sibik, 7000 South Pulaski Rd., Chicago, Ill. 60629. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Bananas and pineapples*, in mixed loads with bananas, except commodities in bulk, from points in Florida to points in Vermont, New Hampshire, and Maine. The purpose of this filing is to eliminate the gateway of Charleston, S.C.

No. MC 105813 (Sub-No. E58), filed December 19, 1975. Applicant: BELFORD TRUCKING CO., INC., P.O. Box 1936, Ocala, Fla. 32670. Applicant's representative: Arthur J. Sibik, 7000 South Pulaski Rd., Chicago, Ill. 60629. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Edible meats, edible meat products, and edible meat by-products, and dairy products, and edible articles distributed by meat packinghouses*, as described in Sections A and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209 and 766 (except commodities in bulk, in tank vehicles and hides), (a) from those points in Iowa, on and north of a line beginning at the Nebraska-Iowa State line and extending along Interstate Highway 80 to the Illinois-Iowa State line, those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along U.S. Highway 84 to junction Mississippi Highway 63, thence south along Mississippi Highway 63 to junction Mississippi Highway 42, thence west along Mississippi Highway 42 to junction U.S. Highway 11, thence south along U.S. Highway 11 to junction U.S. Highway 98, thence west along U.S. Highway 98 to junction Mississippi Highway 35, thence south along Mississippi Highway 35 to the Louisiana-Mississippi State line. (b) from those points in Iowa, on and south of a line beginning at the Nebraska-Iowa State line and extending along Interstate Highway 80 to the Illinois-Iowa State line, to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along Mississippi Highway 42 to junction U.S. Highway 11, thence south along U.S. Highway 11 to junction Interstate Highway 59, thence south along Interstate Highway 59 to the Louisiana-Mississippi State line. The purpose of this filing is to eliminate the gateway of points in Florida.

No. MC 105813 (Sub-No. E59), filed December 5, 1975. Applicant: BELFORD TRUCKING CO., INC., P.O. Box 1936, Ocala, Fla. 32670. Applicant's representative: Arthur J. Sibik, 7000 South Pulaski Rd., Chicago, Ill. 60629. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Meats, meat products, and meat byproducts*, as defined by the Commission, except commodities in bulk, (a) from Chicago, Ill., to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along Mississippi Highway 18 to junction Mississippi Highway 35, thence south along Mississippi Highway 35 to junction U.S. Highway 84, thence west along U.S. Highway 84 to the Mississippi-Louisiana State line and those points in Texas on and south of a line beginning at the Gulf of Mexico and extending west along Texas Highway 35 to junction Texas Highway 44, thence west along Texas Highway 44 to junction U.S. Highway 59, thence west along U.S. Highway 59 to the Texas-Mexico State line; (b) from St. Louis, Mo., and East St. Louis, Ill., to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along U.S. Highway 98 to junction Mississippi Highway 26, thence west along Mississippi Highway 26 to junction U.S. Highway 11, thence south along U.S. Highway 11 to the Mississippi-Louisiana State line and those points in South Carolina on and south of a line beginning at the Georgia-South Carolina State line at or near Robertsville and extending east along South Carolina Highway 462 to junction U.S. Highway 17, thence east along U.S. Highway 17 to the Atlantic Ocean; (c) from Peoria, Ill., to those points in Mississippi on and south of a line beginning at the Atlanta-Mississippi State line and extending west along Mississippi Highway 42 to junction U.S. Highway 98, thence west along U.S. Highway 98 to junction Mississippi Highway 27, thence south along Mississippi Highway 27 to the Mississippi-Louisiana State line, and those points in South Carolina, on and south of a line beginning at the Georgia-South Carolina State line and extending east along South Carolina Highway 3 to junction South Carolina Highway 641, thence east along South Carolina Highway 641 to junction South Carolina Highway 641 to junction South Carolina Highway 64, thence east along South Carolina Highway 64 to junction U.S. Highway 17, thence east along U.S. Highway 17 to the Atlantic Ocean;

(d) From Indianapolis, Ind., to those points in Texas on and south of a line beginning at the Louisiana-Texas State line and extending west along U.S. Highway 10 to junction U.S. Highway 77, thence south along U.S. Highway 77 to junction Alternate Highway 77, thence south along Alternate Highway 77 to junction U.S. Highway 87, thence west along U.S. Highway 87 to junction Texas Highway 97, thence west along Texas Highway 97 to junction Texas Highway 173, thence west along Texas Highway 173 to junction U.S. Highway 81, thence west along U.S. Highway 81 to junction U.S. Highway 57, thence west along U.S. Highway 57 to the International Boundary line between United States and Mexico and those points in that part of Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along Mississippi Highway 42 to junction U.S. Highway 98, thence west along U.S. Highway 98 to junction Mississippi Highway 27, thence south along Mississippi Highway 27 to the Mississippi-Louisiana State line; (e) from Cedar Rapids, Iowa, to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along Mississippi Highway 42 to junction U.S. Highway 11, thence south along U.S. Highway 11 to junction Interstate Highway 59, thence south along Interstate Highway 59 to the Louisiana-Mississippi State line and to those points in South Carolina on and south of a line beginning at the Atlantic Ocean and extending west along U.S. Highway 21 to junction U.S. Highway 17, thence south along U.S. Highway 17 to junction South Carolina Highway 462, thence west on South Carolina Highway 462 to junction U.S. Highway 321, thence north along U.S. Highway 321 to junction South Carolina Highway 119, thence south along South Carolina Highway 119 to the Georgia-South Carolina State line; (f) from Kansas City, Kans., and Kansas City, Mo., to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along Mississippi Highway 42 to junction U.S. Highway 11, thence south along U.S. Highway 11 to junction Interstate Highway 59, thence south along Interstate Highway 59 to the Louisiana-Mississippi State line and those points in South Carolina on and south of a line beginning at the Atlantic Ocean and extending west along U.S. Highway 21 to junction U.S. Highway 17, thence south along U.S. Highway 17 to junction South Carolina Highway 462, thence west along South Carolina Highway 462 to junction U.S. Highway 321, thence northwest along U.S. Highway 321 to junction South Carolina Highway 119, thence south along South Carolina Highway 119 to the Georgia-South Carolina State line.

(g) From St. Joseph, Mo., to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along Mississippi Highway 42 to junction Mississippi Highway 29, thence south along Mississippi Highway 29 to junction Mississippi Highway 26, thence west along Mississippi Highway 26 to junction U.S. Highway 11, thence south along U.S. Highway 11 to junction Interstate Highway 59, thence south along Interstate Highway 59 to the Louisiana-Mississippi State line and to those points in South Carolina on and south of a line beginning at the Atlantic Ocean and extending west along U.S. Highway 21 to junction U.S. Highway 17, thence south along U.S. Highway 17 to junction South Carolina Highway 462, thence west along South Carolina Highway 462 to junction U.S. Highway 321, thence northwest along U.S. Highway 321 to junction South Carolina Highway 119, thence south along South Carolina Highway 119 to the Georgia-South Carolina State line; (h) from Madison, Wis., to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along U.S. Highway 84 to junction Mississippi Highway 63, thence south along Mississippi Highway 63 to junction Mississippi Highway 42, thence west along Mississippi Highway 42 to junction U.S. Highway 11, thence south along U.S. Highway 11 to junction U.S. Highway 98, thence west along U.S. Highway 98 to junction Mississippi Highway 35, thence south along Mississippi Highway 35 to the Louisiana-Mississippi State line and to those points in South Carolina on and south of a line beginning at the Atlantic Ocean and extending west along U.S. Highway 21 to junction South Carolina Highway 170, thence west along South Carolina Highway 170 to junction U.S. Highway 278, thence north on U.S. Highway 278 to junction South Carolina Highway 336, thence west on South Carolina Highway 336 to junction U.S. Highway 321–601, thence south along U.S. Highway 321–601 to the Georgia-South Carolina State line; and

(i) from Milwaukee, Wis., to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along U.S. Highway 84 to junction Mississippi Highway 63, thence south along Mississippi Highway 63 to junction Mississippi Highway 63, thence west along Mississippi Highway 63 to junction U.S. Highway 11, thence south along U.S. Highway 11 to junction U.S. Highway 98, thence west along U.S. Highway 98 to junction Mississippi Highway 35, thence south on Mississippi Highway 35 to the Louisiana-Mississippi State line and to those points in South Carolina on and south of a line beginning at the Atlantic Ocean and extending west along U.S. Highway 21 to junction South Carolina Highway 170, thence west along South Carolina Highway 170 to junction U.S. Highway 278, thence north along U.S. Highway 278 to junction South Carolina Highway 336, thence west on South Carolina Highway 336 to junction U.S. Highway 321–601, thence south along U.S. Highways 321–601 to the Georgia-South Carolina State line. The purpose of this filing is to eliminate the gateway of points in Florida.

No. MC 105813 (Sub-No. E60), filed December 5, 1975. Applicant: BELFORD TRUCKING CO., INC., P.O. Box 1936, Ocala, Fla. 32670. Applicant's representative: Arthur J. Sibik, 7000 South Pulaski Rd., Chicago, Ill. 60629. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Packinghouse products*, as described in Paragraph A, B, and C, in the Appendix to the report in *Modification of Permits—Packing House Products*, 46 M.C.C. 23, (b) *frozen food*, (c) *processed or preserved fish*, and (d) *compressed yeast*, other than dry, except commodities in bulk, from New York, N.Y., and points in New York, and New Jersey, within 15 miles of New York, N.Y., to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along U.S. Highway 82 to junction Mississippi Highway 9, thence north along Mississippi Highway 9 to junction Mississippi Highway 8, thence west along Mississippi Highway 8, thence to the Arkansas-Mississippi State line, and to those points in Arkansas on and south of a line beginning at the Arkansas-Mississippi State line and extending west along Arkansas Highway 4 to junction U.S. Highway 70, thence west along U.S. Highway 70 to the Arkansas-Oklahoma State line, and to those points in Oklahoma on and south of a line beginning at the Arkansas-Oklahoma State line and extending west along U.S. Highway 70 to the Oklahoma-Texas State line, and to those points in Texas beginning at the Oklahoma-Texas State line and extending south and west along U.S. Highway 70 to junction U.S. Highway 287 to junction U.S. Highway 66, thence west along U.S. Highway 66 to the New Mexico-Texas State line. The purpose of this filing is to eliminate the gateway of points in Florida.

No. MC 105813 (Sub-No. E61), filed December 5, 1975. Applicant: BELFORD TRUCKING CO., INC., P.O. Box 1936, Ocala, Fla. 32670. Applicant's representative: Arthur J. Sibik, 7000 South Pulaski, Rd., Chicago, Ill. 60629. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Edible meats, edible meat products, and edible meat by-products, and edible articles distributed by meatpackinghouses* (except hides and commodities in bulk, in tank vehicles), as described in Sections A and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209 and 766, from the plant site of Armour and Company near Sterling, Ill., to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along Mississippi Highway 42 to junction U.S. Highway 11, thence south along U.S. Highway 11 to junction U.S. Highway 93, thence west along U.S. Highway 98 to junction Mississippi Highway 35, thence south along Mississippi Highway 35 to the Louisiana-Mississippi State line, and to those points in Texas on and south of a line beginning at the Gulf of Mexico and extending west along Texas Highway 4 to junction U.S. Highway 83, thence northwest along U.S. Highway 83 to junction Texas Highway 336, thence south along Texas Highway 336 to the International Boundary line between the United States and Canada. The purpose of this filing is to eliminate the gateway of points in Florida.

No. MC 105813 (Sub-No. E66), filed December 5, 1975. Applicant: BELFORD TRUCKING CO., INC., P.O. Box 1936, Ocala, Fla. 32670. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Edible meats, edible meat products, and edible meat by-products, dairy products, and edible articles distributed by meat packinghouses*, as described in Sections A, B and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209, except commodities in bulk, from Joliet, Ill., to those points in Mississippi on and south of a line beginning at the Alabama-Mississippi State line and extending west along Mississippi Highway 42 to junction U.S. Highway 11, thence south along U.S. Highway 11 to junction Interstate Highway 59, thence south along Interstate Highway 59 to the Louisiana-Mississippi State line and to those points in South Carolina on and south of a line beginning at the Atlantic Ocean and extending west along U.S. Highway 21 to junction South Carolina Highway 170, thence west along South Carolina Highway 170 to junction U.S. Highway 278, thence north along U.S. Highway 278 to junction South Carolina Highway 278 to junction South Carolina Highway 336, thence west along South Carolina Highway 336 to junction U.S. Highway 321-601, thence south along U.S. Highway 321-601 to the Georgia-South Carolina State line. Restriction: The authority granted above is restricted against traffic originating or destined to points in New York and Pennsylvania, on and east of U.S. Highway 11, and points in Maryland, Virginia, Maine, Vermont, New Hampshire, Rhode Island, Massachusetts, Connecticut, New Jersey, Delaware, and the District of Columbia. The purpose of this filing is to eliminate the gateway of points in Florida.

No. MC 105813 (Sub-No. E67), filed May 19, 1975. Applicant: BELFORD TRUCKING CO., INC., P.O. Box 1936, Ocala, Fla. 32670. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Edible meats, edible meat products, and edible meat by-products, and edible articles distributed by meat packinghouses*, as described in Sections A and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209 and 766, (except in bulk, in tank vehicles), from the plant site of Armour & Company, at or near Worthington, Minn., to those points in Mississippi on and south of a line begining at the Alabama-Mississippi State line and extending along U.S. Highway 84 to junction Mississippi Highway 63, thence south along Mississippi Highway 63 to junction Mississippi Highway 42, thence west along Mississippi Highway 42 to junction U.S. Highway 11, thence south along U.S. Highway 11 to junction U.S. Highway 98, thence west along U.S. Highway 98 to junction Mississippi Highway 35 thence south along Mississippi Highway 35 to the Louisiana-Mississippi State line. Restriction: Carrier is precluded from interlining traffic with other carriers or from combining the authority granted herein with any authority now held by carrier for the purpose of providing service from and to points other than those authorized herein. The purpose of this filing is to eliminate the gateway of points in Florida.

No. MC 109637 (Sub-No. E93), filed May 29, 1974. Applicant: SOUTHERN TANK LINES, INC., Ten West Baltimore Ave., Lansdowne, Pa. 19050. Applicant's representative: John Nelson, vice president (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Petroleum products* as described in appendix XIII to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209, (except dry petrochemicals to points in Illinois), in bulk, in tank vehicles, from Covington and Louisville, Ky., to points in Illinois: The purpose of this filing is to eliminate the gateway of the Petroleum Products Terminal of the La Gloria Oil & Gas Company near Seymour, Ind.

No. MC 109637 (Sub-No. E94), filed May 29, 1974. Applicant: SOUTHERN TANK LINES, INC., Ten West Baltimore Ave., Lansdowne, Pa. 19050. Applicant's representative: John Nelson, vice president (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Petroleum products* as described in Appendix XIII to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209, in bulk, in tank vehicles (except dry petrochemicals to points in Illinois) from Indianapolis, Ind., and The Petroleum Products terminal of the La Gloria Oil & Gas Co., near Seymour, Ind., to points in Tennessee. The purpose of this filing is to eliminate the gateway of Louisville, Ky.

No. MC 109637 (Sub-No. E95), filed May 29, 1974. Applicant: SOUTHERN TANK LINES, INC., Ten West Baltimore Ave., Lansdowne, Pa. 19050. Applicant's representative: John Nelson, vice president (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Petroleum products*, as described in Appendix XIII to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209, in bulk, in tank vehicles (except dry petrochemicals to points in Illinois), in bulk, in tank vehicles, from the terminal site of the Texas Eastern Transmission Corp. at or near Princeton, Gibson County, Ind., to those points in Tennessee on and east of a line beginning at the Georgia-Tennessee State line and extending along Tennessee Highway 56 to the Kentucky-Tennessee State line. The purpose of this filing is to eliminate the gateway of Louisville, Ky.

No. MC 109637 (Sub-No. E96), filed May 29, 1974. Applicant: SOUTHERN TANK LINES, INC., Ten West Baltimore

Ave., Lansdowne, Pa. 19050. Applicant's representative: John Nelson, vice president (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Calcium carbide residue, fly ash, plastic granules, and resin powder*, in bulk, in tank vehicles, from Louisville, Ky., to points in Kansas, Louisiana, Oklahoma and Texas. The purpose of this filing is to eliminate the gateways of Robertson County, Tenn., and Calvert City, Ky.

No. MC 114552 (Sub-No. E3) (Correction), filed April 26, 1974, published in the Federal Register issue of August 19, 1974, and republished partially, as corrected, this issue. Applicant: SENN TRUCKING COMPANY, P.O. Drawer 220, Newberry, S.C. 29108. Applicant's representative: William P. Jackson, Jr., 3426 North Washington Boulevard, P.O. Box 1267, Arlington, Va. 22201. Authority sought to operate as a common *carrier*, by motor vehicle, over irregular routes, transporting: (1) *Lumber* (except plywood and veneer), (A) from points in Alabama to points in Ohio, West Virginia, Virginia, Maryland, Delaware, Pennsylvania, New Jersey, New York, Massachusetts, Vermont, New Hampshire, Maine, the District of Columbia and Michigan. The purpose of this partial republication is to correct the territorial description by adding the destination state of Michigan. The remander of this letter-notice remains as previously published.

No. MC 114868 (Sub-No. E21), filed August 1, 1975. Applicant: NEWLON'S TRANSFER & STORAGE, 1511 N. Nelson Street, Arlington, Va. 22201. Applicant's representative: Robert J. Gallagher, 1000 Connecticut Ave., N.W., Suite 1200, Washington, D.C. 20036. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Household goods*, as defined by the Commission, (1) between points in Ohio on and north of a line beginning at the Ohio-West Virginia State line and extending along Interstate Highway 70 to junction Interstate Highway 77, thence along Interstate Highway 77 to junction U.S. Highway 30, thence along U.S. Highway 30 to junction U.S. Highway 30N, thence along U.S. Highway 30N to junction U.S. Highway 68, thence along U.S. Highway 68 to junction Interstate Highway 75, thence along Interstate Highway 75 to the Ohio-Michigan State line, on the one hand, and, on the other, points in North Carolina on and east of Interstate Highway 95, (2) between Raleigh, N.C., on the one hand, and, on the other, Bryan, Ohio, (3) between Winston-Salem, N.C., on the one hand, and, on the other, Ashtabula, Ohio, (4) between Elizabeth City, N.C., on the one hand, and, on the other, Bryan, Ohio, (5) between Columbus, Ohio, on the one hand, and, on the other, Elizabeth City, N.C., (6) between Raleigh, N.C., on the one hand, and, on the other, Mansfield, Ohio, and (7) between Youngstown, Ohio, on the one hand, and, on the other, Charlotte, N.C. The purpose of this filing is to eliminate the gateway of Washington, D.C.

No. MC 119767 (Sub-No. E49), filed June 4, 1974. Applicant: BEAVER TRANSPORT CO., P.O. Box 186, Pleasant Prairie, Wis. 53158. Applicant's representative: Henry E. Seaton, 915 Pennsylvania Building, 425 Thirteenth Street, N.W.; Washington, D.C 20004. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Canned and prepared foodstuffs* (except frozen), from Roscoe, Ill., to points in North Dakota and points in South Dakota on, north, and west of a line beginning at the Minnesota-South Dakota State line and extending along U.S. Highway 14 to junction U.S. Highway 83, thence along U.S. Highway 83 to the South Dakota-Nebraska State line. The purpose of this filing is to eliminate the gateway of Somers, Wis.

No. MC 119767 (Sub-No. E55), filed June 4, 1974. Applicant: BEAVER TRANSPORT CO., P.O. Box 186, Pleasant Prairie, Wis. 53158. Applicant's representative: Henry E. Seaton, 915 Pennsylvania Building, 425 Thirteenth Street, N.W., Washington, D.C. 20004. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Foodstuffs* (except commodities in bulk, frozen foods and meats and meat products), from Coloma, Mich., to points in Iowa on, north, and west of a line beginning at the Iowa-Missouri State line and extending along U.S. Highway 59 to juction Iowa Highway 3, thence along Iowa Highway 3 to junction U.S. Highway 63, thence along U.S. Highway 63 to junction U.S. Highway 18, thence along U.S. Highway 18 to the Mississippi River. The purpose of this filing is to eliminate the gateway of Watertown, Wis.

By the Commission.

Robert L. Oswald,
Secretary.

[FR Doc.77-1088 Filed 1-11-77;8:45 am]

[Amdt. No. 1; I.C.C. Order No. 10; SO No. 1252]

REROUTING TRAFFIC

Upon further consideration of I.C.C. Order No. 10 (San Diego & Arizona Eastern Railway Company) and good cause appearing therefor:

It is ordered, That:

I.C.C. Order No. 10 be, and it is hereby, amended by substituting the following paragraph (g) for paragraph (g) thereof:

(g) *Expiration date*. This order shall expire at 11:59 p.m., March 31, 1977, unless otherwise modified, changed, or suspended.

It is further ordered, That this amendment shall become effective at 11:59 p.m., December 31, 1976, and that this order shall be served upon the Association of American Railroads, Car Service Division, as agent of all railroads subscribing to the car service and car hire agreement under the terms of that agreement, and upon the American Short Line Railroad Association; and that it be filed with the Director, Office of the Federal Register.

Issued at Washington, D.C., December 27, 1976.

Interstate Commerce Commission,
Joel E. Burns,
Agent.

[FR Doc.77-1084 Filed 1-11-77;8:45 am]

SOUTHERN PACIFIC TRANSPORTATION CO.

Abandonment Between Butte Creek and Stirling City in Butte County, California

December 23, 1976.

The Interstate Commerce Commission hereby gives notice that: 1. The Commission's Section of Energy and Environment has prepared an environmental threshold assessment survey in the above-entitled proceeding in which it was concluded that the proceeding does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321, *et seq.* 2. A notice setting forth this conclusion was served November 8, 1976, and no substantive comments in opposition, of an environmental nature, have been received by the Commission in response to said notice. 3. This proceeding is now ready for further disposition within the Office of Hearings or the Office of Proceedings as appropriate.

Robert L. Oswald,
Secretary.

[FR Doc.77-1086 Filed 1-11-77;8:45 am]

[AB 33 (Sub-No. 11)]

UNION PACIFIC RAILROAD CO.

Abandonment Between Tonganoxie and Lawrence in Leavenworth and Douglas Counties, Kansas

December 23, 1976.

The Interstate Commerce Commission hereby gives notice that: 1. The Commission's Section of Energy and Environment has prepared an environmental threshold assessment survey in the above-entitled proceeding in which it was concluded that the proceeding does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321, *et seq.* 2. A notice setting forth this conclusion was served November 8, 1976, and no substantive comments in opposition, of an environmental nature, have been received by the Commission in response to said notice. 3. This proceeding is now ready for further disposition within the Office of Hearings or the Office of Proceedings as appropriate.

Robert L. Oswald,
Secretary.

[FR Doc.77-1083 Filed 1-11-77;8:45 am]

federal register

WEDNESDAY, JANUARY 12, 1977

PART II

THE NATIONAL ARCHIVES OF THE UNITED STATES • 1934 •

DEPARTMENT OF DEFENSE

Corps of Engineers, Department of the Army

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ADMINISTRATIVE PROCEDURES

Mississippi River Commission: Public Observation of Commission Meetings

DEPARTMENT OF DEFENSE

Corps of Engineers, Department of the Army

[33 CFR Part 209]

ADMINISTRATIVE PROCEDURES

Mississippi River Commission: Public Observation of Commission Meetings

In accordance with the provisions of the Government in the Sunshine Act (5 U.S.C. 552b) the Commission proposes to implement the provisions of that Act by amending Title 33, Part 209 to add a new section entitled, "Mississippi River Commission: Public Observation of Commission Meetings."

Written comments concerning the proposed regulation are invited from all interested persons. Comments should be submitted to the Secretary, Mississippi River Commission, 1400 Walnut Street, Post Office Box 80, Vicksburg, Mississippi 39180. Written comments received not later than 14 February 1977 will be considered. Such comments will be made available for public inspection at the Office of the Secretary of the Commission.

The purpose of this regulation is to implement sections (b) through (g) of the Government in the Sunshine Act (5 U.S.C. 552b). This regulation is being proposed pursuant to section (g) of the Act.

This regulation, if adopted, will take effect on 12 March 1977.

The Mississippi River Commission has determined that this document does not contain a major proposal requiring preparation of an Inflation Impact Statement under Executive Order 11821 and OMB Circular A-107.

Dated: January 4, 1977.

F. P. KOISCH,
Major General, USA, President,
Mississippi River Commission.

(5 U.S.C. 552b)

Part 209 is amended by adding a new § 209.50 to read as follows:

§ 209.50 Mississippi River Commission: Public Observation of Commission Meetings.

(a) *Purpose.* (1) The purpose of this regulation is to afford to the public, to the fullest possible extent, information regarding the decisionmaking processes of the Mississippi River Commission and to open all meetings of the Mississippi River Commission to public observation except in instances where a portion or portions of a meeting may be closed to the public in accordance with this regulation in order to protect the rights of individuals and/or in order to permit the Mississippi River Commission to carry out its statutory and assigned functions and responsibilities. This regulation is issued in accordance with section (g) of the Government in the Sunshine Act and implements sections (b) through (f) of said Act [5 U.S.C. 552b (b) through (f)].

(2) Public observation of Mississippi River Commission meetings includes public participation in the deliberations of the Commission only to the extent specifically provided in public notices of such meetings.

(b) *Definitions.* The following definitions apply to the regulation in this section.

(1) "Commission" means The Mississippi River Commission.

(2) "President" means the duly appointed President and Executive Officer of the Commission.

(3) "Commissioner" means a duly appointed member of the Commission.

(4) "Secretary" means the Secretary of the Commission.

(5) "Chief Legal Officer" means the Division Counsel or the acting Division Counsel of the Lower Mississippi Valley Division, Corps of Engineers.

(6) "Meeting" means the deliberations of at least a majority of the Commissioners where such deliberations determine or result in the joint conduct or disposition of official Commission business, but does not include:

(i) Deliberations of the Commission in determining whether or not to close a portion or portions of a meeting in accordance with paragraphs e(4) and e(5) of this section.

(ii) deliberations of the Commission in determining whether or not to withhold from disclosure information pertaining to a portion or portions of a meeting as provided in section e(4) and e(5) of this section.

(iii) deliberations of the Commission pertaining to changes in the subject matter of a meeting or changes in the determination to open or close a portion or portions of a meeting to the public following the public announcement of such meeting in accordance with paragraph d(4) of this section.

(iv) deliberations of the Commission in determining whether to waive the one-week public notice requirement in accordance with paragraph d(2) of this section.

(c) *Time, place and agenda of meetings.* (1) The meetings of the Commission, except those held on Government boats during inspection trips of the Commission, shall be held at Vicksburg, Mississippi. The time of such meetings shall be fixed by the President of the Commission, who shall cause due notice of such meetings to be given members of the Commission and the public.

(33 U.S.C. 646)

(2) The President shall, after consultation with the Commissioners, prepare a detailed agenda for planned Commission meetings at the earliest practicable time. Suggestions from the public of proposed agenda items are invited.

(d) *Public notices and Federal Register publication.* (1) At least one week before each Commission meeting the Secretary shall issue a public announcement which (i) States the time and place of the meeting, (ii) Lists the agenda items or subjects to be discussed at the meeting, (iii) States whether the meeting or portions of the meeting are to be closed or open to public observation, (iv) States whether or not public participation in the meeting will be permitted, and (v) States the name and business phone number of the official who will respond to requests for information about the meeting.

(2) The one-week period for public notice required by paragraph d(1) of this section shall not be applicable when a majority of the entire membership of the Commission determines by a recorded vote that Commission business requires that a meeting be called at an earlier date. The Secretary shall, however, issue the public notice required by paragraph d(1) of this section at the earliest practicable time.

(3) When due to unforeseen circumstances it is necessary to change the time or place of a meeting following the public announcement required by paragraph d(1) of this section, the Secretary will publicly announce such change at the earliest practicable time.

(4) The subject matter of a meeting, or the determination of the Commission to open or close a portion or portions of a meeting to the public, may be changed following the public announcement required by paragraph d(1) of this seetion only if (i) a majority of the entire membership of the Commission determines by a recorded vote that Commission business so requires and that no earlier announcement of the change was possible, and (ii) the Secretary publicly announces such change and the vote of each member on such change at the earliest practicable time.

(5) Immediately following each public announcement required by this section, notice of the time, place, and subject matter of a meeting, whether a portion or portions of the meetings are open or closed to public observation, any change in one of the preceding, and the name and business telephone number of the official of the Commission who will respond to requests for information about the meeting, shall be submitted for publication in the FEDERAL REGISTER.

(e) *Closing a portion or portions of a meeting.* (1) All Commission meetings shall be open to the public except when the Commission determines that public disclosure of information to be discussed in a portion or portions of a meeting is likely to:

(i) Disclose matters that are (A) Specifically authorized under criteria established by Executive order to be kept secret in the interests of national defense or foreign policy and (B) In fact properly classified pursuant to such Executive order;

(ii) Relate solely to the internal personnel rules and practices of the Commission;

(iii) Disclose matters specifically exempted from disclosure by statute [other than the Freedom of Information Act (5 U.S.C. 552)], provided that such statute (A) Requires that the matters be withheld from the public in such a manner as to leave no discretion on the issue, or (B) Establishes particular criteria for withholding or refers to particular types of matters to be withheld;

(iv) Disclose trade secrets and commercial or financial information obtained from a person and privileged or confidential;

(v) Involve accusing any person of a crime, or formally censuring any person;

(vi) Disclose information of a personal nature when disclosure would constitute a clearly unwarranted invasion of personal privacy;

(vii) Disclose investigatory records compiled for law-enforcement purposes, or information which, if written, would be contained in such records, but only to the extent that the production of such records or information would: (A) Interfere with enforcement proceedings, (B) Deprive a person of a right to a fair trial or to an impartial adjudication, (C) Constitute an unwarranted invasion of personal privacy, or (D) Disclose the identity of a confidential source, and, in the case of a record compiled by a criminal law-enforcement authority in the course of a criminal investigation or by an agency conducting a lawful national-security intelligence investigation, confidential information furnished only by the confidential source;

(viii) Disclose information the premature disclosure of which would be likely to significantly frustrate implementation of a proposed Commission action except: (A) When the Commission has already disclosed to the public the content or nature of its proposed action or (B) When the Commission is required by law to make such disclosure on its own initiative prior to taking final Commission action on such proposal;

(ix) Specifically concerns the Commission's participation in a civil action or proceeding.

(2) Although one or more of the reasons listed in paragraph (e)(1) of this section for closing a portion or portions of a meeting may apply to the subject or subjects to be discussed, the Commission may not take such action when it determines that the public interest requires that such portion or portions of a meeting be open to the public.

(3) Whenever any person whose interest may be directly affected by a portion of a meeting requests that the Commission close such portion to the public for any of the reasons referred to in paragraph e(1) (v), (vi) or (vii) of this section, the Commission, upon the request of any one of its members, shall vote by recorded vote whether to close such meeting.

(4) Action to close a portion or portions of a meeting for one or more of the reasons listed in paragraphs (e)(1) (i) through (ix) of this section, or to withhold information from the public for one or more of the reasons listed in paragraphs (e)(1) (i) through (ix) of this section shall be taken only when a majority of the entire membership of the Commission votes to take such action.

(5) A separate recorded vote of the Commission shall be taken with respect to each meeting a portion or portions of which the Commission proposes to close to the public, and a separate vote of the members of the Commission shall be taken to determine whether to withhold information from the public. The vote of each Commissioner participating in such vote shall be recorded and no proxies shall be allowed.

(6) Within one day of any vote taken pursuant to paragraphs (e)(4) and (e)(5) of this section, the Commission shall make publicly available a written copy of such vote reflecting the vote of each member on the question. If a portion or portions of a meeting are to be closed to the public, the Commission shall within one day of the vote taken pursuant to paragraphs (e)(4) and (e)(5) of this section make publicly available a written explanation of its action in closing a portion or portions of the meeting together with a list of all persons expected to attend the meeting and their affiliations.

(7) For every portion or portions of a meeting closed pursuant to paragraphs (e)(1) (i) through (ix) of thi section, the Chief Legal Officer of the Commission shall publicly certify that, in his or her opinion, the meeting may be closed to the public and shall state each relevant exemptive provision. A copy of such certification, together with a statement from the presiding officer of the meeting setting forth the time and place of the meeting, and the persons present, shall be retained in the Commission files.

(f) *Records.* (1) The Secretary shall maintain in the official files:

(i) A complete transcript or electronic recording (disclosing the identity of each speaker) adequate to record fully the proceedings of the Commission at a portion or portions of a meeting closed to the public for the reasons specified in paragraphs (e)(1) (i) through (ix) of this section.

(ii) The statement of the presiding officer of each Commission meeting, a portion or portions of which were closed to the public, as required by paragraph (e)(7) of this section.

(iii) The certification of the Chief Legal Officer, as required by paragraph (e)(7) of this section, for each Commission meeting, a portion or portions of which were closed to the public.

(2) The records required by paragraph (f)(1) of this section shall be retained for at least two years following any meeting or not less than one year following conclusion of Commission action with respect to any matter discussed at such meeting, whichever occurs later.

(g) *Public access to records.* (1) All records required to be maintained in accordance with the provisions of f(1) of this section shall promptly be made available to the public by the Secretary except for information which the Commission has determined may be withheld from the public for the reasons stated in paragraphs (e)(1) (i) through (ix) of this section.

(2) Public inspection of such records shall take place at the headquarters of the Mississippi River Commission, 1400 Walnut Street, Vicksburg, Mississippi 39180.

(3) The Secretary shall provide (subject to withholding of information for the reasons stated in paragraphs (e)(1) (i) through (ix) of this section) upon request of any person, copies of the records required by the provisions of (f)(1) of this section, including transcriptions of electronic recordings at the actual cost of transcription or duplication.

[FR Doc.77-842 Filed 1-11-77;8:45 am]

federal register

WEDNESDAY, JANUARY 12, 1977

PART III

THE NATIONAL ARCHIVES OF THE UNITED STATES
★ 1934 ★

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Office of Assistant Secretary for Consumer Affairs and Regulatory Functions

■

MOBILE HOME PROCEDURAL AND ENFORCEMENT REGULATIONS

Consumer Complaint Handling and Remedial Actions and Related Provisions; Final Rule

Title 24—Housing and Urban Development

CHAPTER XX—OFFICE OF ASSISTANT SECRETARY FOR CONSUMER AFFAIRS AND REGULATORY FUNCTIONS, DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

[Docket No. R-77-390]

PART 3282—MOBILE HOME PROCEDURAL AND ENFORCEMENT REGULATIONS

Consumer Complaint Handling and Remedial Actions and Related Provisions; Final Rule

The Department of Housing and Urban Development is hereby issuing a final rule establishing the procedures through which the notification and correction provisions of section 615 of the National Mobile Home Construction and Safety Standards Act of 1974, 42 U.S.C. 5414, will be enforced. That section requires that mobile home manufacturers notify mobile home consumers of the existence of certain problems in their mobile homes when the manufacturer or the Secretary determines that such problems exist. The section also requires that the manufacturer correct the problems at its own expense in limited circumstances where a risk of injury or death is involved. The final rule issued here consists of a revision of Subpart I of 24 CFR Part 3282, amendments to other sections of Part 3282 that are related to Subpart I and an unrelated amendment to 24 CFR 3282.362 with respect to the label that manufacturers are required to affix to each new mobile home.

A proposed rule to establish the mobile home procedural and enforcement regulations was first published on January 22, 1976, at 41 FR 3406. After consideration of extensive comments, a final rule was published on May 13, 1976, at 41 FR 19846. Soon after that rule was issued, the Department received several petitions for reconsideration of Subpart I and related sections from mobile home manufacturers and representatives of the mobile home industry. The manufacturers argued that the complexity of those provisions as issued would prevent them form responding as effectively as possible to safety-related problems in mobile homes and otherwise to consumer complaints. This concern was echoed by oral comments from representatives of consumer groups. As a result of this comment, the Department issued an amendment to 24 CFR 3282.401 at 41 FR 24971 on June 21, 1976, to delay the effectiveness of certain provisions of Subpart I until September 15, 1976. At that time the Department intended to issue proposed revisions to the sections in question and to finalize those revisions before September 15, 1976. Because the Department was unable to meet that deadline, the Department on September 17, 1976, at 41 FR 40337, further delayed the effective date until December 15, 1976. This was followed by the issuance of a proposed rule on September 21, 1976, at 41 FR 41214. The period for submission of public comment on the proposed rule ended on October 25, 1976, and the Department has considered all comments received since that date. The delay of the effectiveness of certain provisions of Subpart I was further extended on December 19, 1976, at 41 FR 54597, until this final rule takes effect.

The Department received 21 comments on the proposed rule. Fifteen were from mobile home manufacturers or their representatives. One was from one of the Department's Area Directors. Three were from states and two were from consumers or consumer groups. The Department has found this particular group of comments to be very useful and commends those who participated in this rulemaking. All comments have been thoroughly reviewed and considered in developing this final rule.

This preamble describes the final rule and discusses the comments received and the Department's responses to the comments. It begins with a general introduction of the rule and discussion of the general comments received, and it then covers the specific sections, the changes from the proposal and the Department's response to the comments.

The Department's approach in developing this final rule is to establish a system that allows the maximum amount of flexibility on the part of manufacturers in fulfilling their responsibilities under § 615 of the Act, while assuring that those responsibilities will be fulfilled in a timely manner. At the same time, this rule allows the Department and State Administrative Agencies to enforce the provisions of section 615 whenever necessary if manufacturers are not acting voluntarily or if they are not fulfilling their responsibilities within a reasonable period of time.

Several commenters argued that the Department should continue the delay of several provisions of Subpart I and publish this rule in proposed form once again. Some also argued that the Department should delay the effective date of this rule to allow the industry to establish procedures for meeting the rule. The Department has decided that a further proposal would be inappropriate in light of the extensive comment that has been received on the various versions of Subpart I and in light of the fact that the most recent group of comments has been very helpful in developing the final rule. Further, this rule is considerably simpler than earlier versions, and the industry, which was required to act under Subpart I with respect to imminent safety hazards and serious defects, should already have in place procedures that are adequate to operate under this rule. The Department has, therefore, decided to issue this regulation as a final rule, effective February 11, 1977.

Two other commenters argued generally that the Department has no authority to require any actions with respect to noncompliances and that the Department is acting unreasonably in developing extensive regulations to enforce section 615 of the Act. These arguments are supported in one case by a claim by a manufacturer that it has handled 458 consumer complaints since June 15, 1976, and that 72 percent of these complaints have been resolved to the satisfaction of the manufacturer and the consumer. The Department response that section 615(e)(1) of the Act clearly authorizes the Secretary to determine that a noncompliance exists and to require notification of the existence of the noncompliance. This rule, as any law or regulation, is designed to assure that those who are not fulfilling their responsibilities are required to do so.

The Department emphasizes that this program goes beyond requiring that manufacturers respond to individual complaints. The purpose of this program is to provide notification and, in some cases, correction to all owners of mobile homes in which a particular type of problem exists. Therefore, the manufacturer must do more than simply respond to the individual complaints. It must also take whatever actions may be appropriate to determine whether other mobile homes are affected and to provide notification or correction with respect to those mobile homes.

In addition to proposing amendments to Subpart I itself, the Department proposed amendments to § 3282.9, *Computation of Time* and § 3282.11, *Preemption and Reciprocity*. The proposed amendments to § 3282.9 would have changed the manner in which time periods established by the regulations are computed by counting only business days if the time period was less than 10 days, and counting calendar days if the time period was more than 10 days. The amendment would also have allowed the Secretary or an SAA to extend any time period upon a showing of good cause by the party governed by the time period, but it would have explicitly stated that mere disruption of normal business as a result of regulatory requirements would not be considered to be good cause for extension. These amendments were proposed because the Department believed that the business day concept would be simpler for the industry and the public to follow and because there was a need to allow time limits to be flexible in some cases. With respect to the change to a business day concept, the comments argued either that the term "business day" be defined or that the Department retain the original rule that had been derived from the Federal Rules for Civil Procedure. Rather than introduce and define a new term, the Department has retained the original rule.

Several manufacturers argued that the Department should include in this section a provision that automatically extends time periods when circumstances beyond a manufacturer's control delay actions the manufacturer is taking. The Department has not accepted this suggestion but has adopted the proposed rule that allows extensions if good cause is shown. This will allow time periods to be flexible in appropriate cases. Because requests for extension of time may be made by telegram or telephone with adequate justification, the Department believes there is no need for automatic extensions of time. Further, if there were a provision for automatic extensions, the Department and the SAAs would be in the untenable position of not knowing the deadlines that manufacturers were required to meet.

The Department has deleted the last sentence of the proposed paragraph (b) which would have prevented manufacturers from arguing that delay resulting from regulatory requirements justified an extension of time. While the Department continues to believe that this would not be an adequate justification for delay except in unusual circumstances, the Department agrees with the commenters who argued that this sentence is unduly restrictive. In the normal case, however, the Department expects that good cause will be shown only where circumstances beyond the control of the manufacturer and unrelated to the manufacturer's responsibilities under the regulations are the cause of the delay.

Some commenters argued that time limits throughout the proposal were too short. In some cases, time limits were changed because the Department believed that they were unduly restrictive. The result as the rule is now issued is a system in which time periods are exacting but reasonable and in which any time periods established in these regulations can be extended if good cause is shown pursuant to § 3282.9(b).

The Department also proposed an amendment to § 3282.11, *Preemption and Reciprocity*. The amendment to paragraph (c) of that section was intended to make it clear that where there is no remedy under the Federal Act, states may establish such remedies as they deem appropriate, including requiring correction of individual noncompliances and defects. The Department's decision that states may require remedies for individual mobile homes is based on the last sentence of section 615(g) of the Act, 42 U.S.C. 5414(g), which reads as follows:

> Nothing in this section shall limit the rights of the purchaser or any other person under any contract or applicable law.

Some commenters argued that this is in conflict with a provision of section 623 of the Act, 42 U.S.C. 5422, which indicates that states may enforce the Federal standards only under plans approved under that section. The Department sees no conflict between those sections because section 623 must refer to enforcement of the Federal standards under the Act, and the Department has determined, as reflected in the proposed rule and discussed below, that the requirements of section 615 of the Act, 42 U.S.C. 5414, do not govern individual noncompliances or defects. Therefore, requiring remedies with respect to individual noncompliances or defects is outside the enforcement that the Department or a state would carry out under the Act. The Department's conclusion, based on the comments and on further research, is that a state may not establish a system of enforcing the standards that requires correction of classes of noncompliances or defects because that would constitute a system that could interfere with the Federal program. However, a state may require such actions as it deems appropriate with respect to noncompliances or defects in individual mobile homes after the homes have been sold to consumers. For example, when a state receives a consumer complaint indicating that a noncompliance exists in an individual mobile home, the Federal law does not prohibit the state from requiring that the manufacturer or the dealer correct the noncompliance. Furthermore, in the Department's view, states are not prohibited from requiring manufacturers to issue warranties; nor are states prohibited from requiring manufacturers to adequately perform warranty obligations. This would be done under state authority independent of the Federal Act. This conclusion is derived from the case law relating to preemption.

On the basis of the conclusion, the Department has retained the original paragraph (c) of § 3282.11 as published on May 13, 1976. Under that paragraph a state may not require a manufacturer to correct noncompliances and defects in all homes with respect to which the manufacturer was required to provide notification. A state may, as noted above, require the manufacturer to correct noncompliances and defects in response to individual consumer complaints. The proposed language has not been adopted because the comments indicated that it was confusing, and the Department concluded that it would be unwise to refer to specific aspects of the Federal program in indicating what states are allowed to do. Instead, the Department has adopted a new paragraph (e) which states the rule that governs whether a state action is valid or whether it is preempted. This rule governs state actions in all areas related to mobile homes, not just state efforts to require other remedies than those provided for in the Act. This amendment does not, however, change paragraph (b) of § 3282.11, which prohibits state inspections prior to sale to the consumer. Finally, the Department emphasizes, as requested by several commenters, that if states are to require remedies for individual mobile homes, those remedies must be established under state law.

The Department has substantially revised Subpart I from both the May 13, 1976, version and the proposed version. The final rule is simpler and allows all parties greater flexibility in fulfilling their responsibilities. It also allows more effective enforcement by the Department. The rule reflects the Department's understanding that unless manufacturers act voluntarily, the Department or an SAA must issue a preliminary determination and enforce the Act through the administrative process. The final rule, therefore, establishes a few clearly defined and reasonable time limits for voluntary action and removes the highly restrictive requirements of the May 13 rule. The Department's policy is that manufacturers are encouraged to act voluntarily under these regulations, and if manufacturers act reasonably, their actions will be accepted. However, where manufacturers do not act reasonably, the Department and the SAAs will bring administrative proceedings to enforce the Act. This will be described in greater detail below.

Sections 3282.401 and 3282.402 are revised and somewhat reordered to combine the purpose and scope of the subpart and to eliminate redundancies noted by several commenters. One commenter argued that the proposed language of § 3282.402(a) referring to protection of the rights of all parties should be deleted because the Act was designed to protect the rights of consumers, not of manufacturers. The Department disagrees strongly with this suggestion. Due process demands that the rights of all parties be protected in any regulatory program. The suggestion that by proposing this language the Department is indicating that it does not intend to enforce the Act to its full extent is wholly unwarranted and unjustified by the Department's actions to date. The language proposed as § 3282.402(a) appears as § 3282.401(a).

Significant comment was also received with respect to two other aspects of these sections. A consumer group argued that the proposed language of § 3282.402(b) be changed to refer to "gross consumer abuse" rather than to "abnormal consumer use," in stating the limit on a manufacturer's liability for providing notification or correction. This argument was based on "U.S. v. General Motors," 518 F2d 420 (1975). In response to that comment, a manufacturer argued that the standard of the "General Motors" case was not appropriate because it involved a safety defect, while many cases arising under the mobile home Act will not involve safety. The Department rejects this argument because the mobile home Act is intended to cover construction as well as safety, while the motor vehicle legislation under review in "General Motors" covered only safety. The Department has reviewed the "General Motors" case and has concluded that the regulations should reflect the holding of that case in full. Section 3282.402(b) now indicates that a manufacturer's liability is limited where the manufacturer can show that there has been "gross and unforseeable consumer abuse or unforseeable neglect of maintenance." Finally, several manufacturers have argued that manufacturers that are acting without having been ordered to do so as the result of an administrative proceeding should not be required to classify the problem with respect to which they are acting. The Department agrees that this would simplify the system, and § 3282.402(d) states that such classification will not be necessary where manufacturers are acting under § 3282.404.

Section 3282.403, consumer complaint and information referral has been simplified so that when an SAA or the Secretary receives complaints or other information indicating the possible existence of an imminent safety hazard, serious defect, defect, or noncompliance, the SAA or the Secretary will refer the information to the manufacturer of the mobile home in question. The SAA or the Secretary shall also refer the information to the SAA of the state where the home was manufactured or, if there is no such SAA, to the Secretary if it appears that more than one mobile home may be involved. The information shall be sent to both the Secretary and the SAA of the state of manufacture if it appears that an imminent safety hazard or serious defect may be involved, regardless of the number of mobile homes affected. The Department did not accept suggestions that an SAA or the Secretary be required to refer the complaint to the manufacturer within a specified time limit. The result is a simpler system in which the paperwork is minimized. Paragraph (c) of the proposed § 3282.403 established which agencies may make determinations. The Department has deleted this section and included all such rules in § 3282.407, which governs making determinations.

Sections 3282.404 through 3282.407 of the May 13, 1976, rule have been replaced by § 3282.404 through 407 of this final rule. These sections are substantially different from the May 13, 1976 rule and reflect the proposed rule in simplified form. The aspects of the proposed rule that received the most attention from the commenters were the "automatic determination" provisions of § 3282.404 (c) and (d). Under those paragraphs, a manufacturer would have been deemed to have made a determination of noncompliance, defect, serious defect, or imminent safety hazard when it received information indicating that one existed. The industry commented in unison that this was unreasonable. This concept has been replaced with the requirements of § 3282.404 (b) and (c). Under those sections, a manufacturer must, within a reasonable time, but not later than 20 days after receiving information that may indicate the existence of a problem for which the manufacturer is responsible under the Act, determine whether the manufacturer is, in fact, responsible for providing notification under the Act, as established in paragraph (a) of the section. The manufacturer must maintain complete records of such determinations in a form that is suitable for audit by the Secretary or an SAA.

A manufacturer is responsible for providing notification under paragraph (a) of § 3282.404 if the manufacturer receives information indicating the existence of an imminent safety hazard or serious defect in one or more mobile homes of if the manufacturer receives information indicating that a defect or noncompliance may exist in a class of mobile homes. The concept of a class of mobile homes is described in paragraph (a). For purposes of § 3282.404(b), a manufacturer receives information indicating the existence of a class of mobile homes containing a defect or noncompliance if the manufacturer receives information which of itself indicates that a class of mobile homes is involved, or if the manufacturer receives, over a period of time, a number of complaints or other information which indicates that a class of mobile homes may be involved. The manufacturer's responsibilities under paragraph (b) are triggered when the manufacturer has received enough complaints to indicate that a class of mobile homes is involved. The manufacturer must keep track of complaints received so that the manufacturer can determine whether a new complaint, when added to those previously received, is enough to indicate a class of mobile homes and trigger the manufacturer's responsibilities under paragraph (b).

If a manufacturer decides that it is responsible for providing notification, the manufacturer must then prepare and submit a plan for notification to the agency described in § 3282.404(c). The plan must be submitted within 20 days of the manufacturer's decision that it is required to provide notification. However, no plan need be submitted in the case of an imminent safety hazard or serious defect where only one home is involved and the manufacturer corrects the home within the 20 day period. In such cases, the manufacturer need only maintain records of the corrections in a form suitable for audit. If a plan is submitted, paragraph (d) requires that the manufacturer complete the plan within the time limit set out in the plan. Paragraph (e) continues in a simplified form, the ability of a manufacturer to act before obtaining formal plan approval and to protect itself in so acting by obtaining agreement from an SAA or the Secretary that proposed repairs are acceptable. Finally, paragraph (f) continues the concept that a manufacturer may obtain a waiver of the formal plan submission and notification requirements if the manufacturer agrees, before the expiration of the time for plan submission, to correct all homes in an acceptable manner within 60 days of requesting the waiver. This is not, as some commenters argue, a requirement that manufacturers provide correction. It enables manufacturers to substitute for the formal notification requirements of the Act corrections that may not otherwise be required. With these changes, § 3282.404 replaces the proposed § 3282.404 and § 3282.405.

Section 3282.405, SAA *Responsibilities*, is a new section in this form, but it embodies concepts that have existed throughout. In part, it replaces the proposed § 3282.406. Paragraph (a) reflects the fact that SAA's are responsible for monitoring manufacturer compliance with § 3282.404, and paragraphs (b) and (c) indicate that if SAAs find that manufacturers are not acting as required, they shall make appropriate preliminary determinations or they shall refer the cases to the Secretary to make such determinations. When an SAA makes a preliminary determination, it will hold a hearing, if one is requested, and where appropriate, issue a final determination. Preliminary determinations are appropriate both where manufacturers have not acted at all and where manufacturers are acting and have submitted a plan, but are not willing to agree to acceptable deadlines for completion of the plan.

Section 3282.406, Required manufacturer correction, simply restates paragraph (a) of the former § 3282.408. Paragraph (b) of the former section provided that a manufacturer would have an opportunity to present views when the Secretary determined that the manufacturer was responsible for correction. That paragraph has been deleted and the concept has been embodied in § 3282.407.

Section 3282.407 contains the same concepts that were included in the former § 3282.407, both as issued and as proposed, but it has been reorganized for simplicity and clarity. It provides that the Secretary may make preliminary determinations that an imminent safety hazard or serious defect exists and that correction is required. An SAA may not make such preliminary determinations, but it may, under this section, make a preliminary determination that a noncompliance or defect exists when the SAA has information indicating that a class of mobile homes may be affected. Such information exists if there appears to be a class of mobile homes that is identifiable because the same defect or noncompliance has been systematically introduced into more than one mobile home during the course of production. Some commenters argued that "class" should be defined, but the Department finds no need to do so, because in the final rule the term is never used without an explanation of the concept. The rest of the section remains basically the same, though reorganized, with three exceptions. First, in response to many comments, the time within which a hearing or presentation of views must be requested after receipt of a Notice of Preliminary Determination has been extended to 15 days in the case of a serious defect, defect, or noncompliance. It remains 5 days in the case of an imminent safety hazard. Second, a provision for offers of settlement has been added. Third, while the waiver concept embodied in § 3282.407(c) of the proposed has been retailed, it has been limited to cases in which a preliminary determination of noncompliance or defect has been issued, and it now includes a requirement that all corrections be completed within 60 days of requesting the waiver or of the Final Determination, whichever is earlier.

The original § 3282.409, Reimbursement for prior correction by owner, has been retained, but it has been simplified, and it is now § 3282.408.

Section 3282.409 now sets out the requirement for the manufacturer's plan for notification and correction that is submitted under § 3282.404. Some of the proposed language has been deleted for clarity and simplicity, and an explicit requirement that the plan contain a deadline for completion has been added. As established by § 3282.411, the deadline must be reasonable, and an SAA or the Secretary will judge the deadline according to criteria set out in § 3282.411(a). This responds to several comments that greater flexibility was necessary and that the Department should incorporate a reasonableness concept into the regulations. Some commenters argued that the plan should not be required to include the IPIA concurrence in the method used to determine the class of mobile homes involved. The Department did not accept these comments because the IPIA is best able to evaluate the method used. Several commenters also argued that there should be no requirement that notification be sent by certified mail because this will be costly and time consuming. The Department believes this is a useful requirement because it results in a record of the notifications having been sent, and the Department has retained this requirement.

Section 3282.410 contains the requirements for the contents of the notice that is required by the Act. It has been changed to reflect the fact that if manufacturers are acting under § 3282.404, they need not classify the problem with respect to which they are providing notification. Pursuant to a consumer comment, and contrary to a manufacturer objection, paragraph (e) now requires that the notice state whether the manufacturer will correct under Subpart I or otherwise. The consumer comment, while suggesting different language, pointed out that the previous section did not adequately track the language of section 615(c) of the Act, 42 U.S.C. 5414(c). The new language tracks that section. Other minor changes have been made for simplicity and clarity.

Section 3282.411, *Time for Implementation*, replaces the previous and proposed § 3282.413. As previously discussed, paragraph (a) states that the deadline for completion of the plan must be acceptable according to established criteria. The criteria for acceptance are that the deadline be reasonable taking into account the seriousness of the problem, the immediacy of any risk, the number of mobile homes involved, and the difficulty of completing any actions. There is a limit of 60 days where the manufacturer is required to correct under § 3282.406. Paragraph (b) establishes the time limits that the Secretary or an SAA must include in any order resulting from a Final Determination, and paragraph (c) allows extensions of time periods for good cause. When an extension is granted, notice of the extension must be published in the FEDERAL REGISTER.

Section 3282.412, Completion of remedial actions and report, establishes requirements that manufacturers must meet to close out any notification or correction campaigns in which they are involved. The Department has deleted the requirement that the manufacturer obtain a signed statement from the owner that the correction has been done to the owner's satisfaction. The Department believed this requirement to be too burdensome, and the Department believes that the owner should not be required to state that the correction is satisfactory. Instead, the manufacturer is required only to certify that corrections have been done, if they have been, or to certify that the owner has refused entry into the home if that is the case. Several manufacturers argued that they should not be required to certify that the corrections have been made since in most cases they will not be performing the corrections. The Department cannot accept this argument. Under the Act, the manufacturers are responsible for making corrections, and the manufacturers must certify that they have met their responsibilities. Manufacturers may require such certifications as they wish from dealers, component suppliers or others who actually carry out the corrections, but the Department can accept certifications only from the manufacturers.

The only other aspect of Subpart I that requires discussion here is the provision of § 3282.414(a), formerly § 3282.415(a), with respect to manufacturer responsibility for mobile homes in the hands of dealers and distributors. In the September 21, 1976 publication, the Department proposed language that would hold the manufacturer responsible for any failures to conform or imminent safety hazards that result from transportation to the dealer or distributor. Many comments from both the industry and one state argued that this would disrupt the commercial relationship between manufacturers and dealers in a manner that was not intended by Congress. The Department has basically accepted this position, with the exception that the Department believes the manufacturer to be responsible for transit damage that was reasonably foreseeable by the manufacturer at the time the mobile home was released. This conclusion is reflected in the new language of § 3282.414(a).

The Department is including in this package of amendments two amendments that are not directly related to the proposal. One of them is directly related to Subpart I, and the other concerns the language to be used on the label that manufacturers are required to affix to their mobile homes before the homes can be sold. Both are amendments to Subpart H of Part 3282, which governs Primary Inspection Agencies (PIA's). The first adds a new § 3282.366, Notification and Correction Campaign Responsibilities. This section incorporates in the subpart on PIA's concepts that have already been incorporated into Subpart I. Paragraph (a) states the responsibility of IPIA's and DAPIA's for assisting the Secretary or an SAA where necessary in identifying the class of mobile homes that may have been affected by a particular imminent safety hazard, serious defect, defect, or noncompliance. Paragraph (b) reflects the IPIA responsibility for concurring in or disputing the method used by a manufacturer to determine the number of mobile homes involved in a particular notification or correction campaign. These concepts were both embodied in the original Subpart I, but they are stated here in this way because Subpart I no longer includes the concept that a manufacturer will submit a plan for notification and correction after a final Determination. Since that is the case, there would be no IPIA concurrence in the course of submitting the plan, so this section makes the IPIA and the DAPIA responsible for assisting the Secretary and the SAA's.

The other amendment changes the language of the certification label required by § 3282.362(c)(2)(i)(C) so that the phrase "to the best of the manufacturer's knowledge and belief" modifies the certification that the home has been inspected as well as the certification that the home conforms to the standards. This action reflects consideration by the Department of comments made by mobile home manufacturers in response to the language required in the section when it became effective on May 13, 1976. The revised language will appear on all labels provided by IPIA's after existing label inventories held by IPIA's as of December 31, 1976, are exhausted, except that all labels applied on or after June 30, 1977, shall contain the revised language. This will assure that no labels presently in existence will be wasted. This change in the language of the label does not change the substantive impact of the label. Enforcement Bulletin H-1-76 published on June 21, 1976, at 41 FR 24973 stands as the Department's interpretation of the label language. Because the original label language was subjected to public comment in the proposed miscellaneous amendments to 24 CFR Part 280 published on May 11, 1976, at 41 FR 19280, and because the Department has received extensive comment on this issue, the Department believes that there is no need that this amendment to § 3282.362 be subjected to public comment. The change made here is the same as the change being made in the miscellaneous amendments, which were subject to comment.

The Department has determined that an Environmental Impact Statement is not required with respect to these amendments. A copy of the Finding of Inapplicability is available for inspection and copying according to Department rules and regulations during regular business hours at the Rules Docket Clerk, Office of the Secretary, Room 10141, Department of Housing and Urban Development, 451 7th Street, S.W., Washington, D.C.

It is hereby certified that the economic and inflationary impacts of the proposed rule have been carefully evaluated in accordance with OMB Circular A-107.

This rule will take effect February 11, 1977.

Accordingly, Part 3282 of 24 CFR is amended as follows:

1. By adding a new paragraph (b) to § 3282.9, so that the section reads as follows:

§ 3282.9 Computation of time.

(a) In computing any period of time prescribed or allowed by these regulations, the day of the act or event from which the designated period of time begins to run shall not be included in the computation. The last day of the period so computed shall be included unless it is a Saturday, Sunday, or a legal holiday, in which event the period runs until the end of the next day which is not a Saturday, Sunday, or legal holiday. When the period of time prescribed or allowed is less than 7 days, intermediate Saturdays, Sundays, and legal holidays shall be excluded in the computation. When the period of time prescribed or allowed is more than 7 days, intermediate Saturdays, Sundays, and legal holidays shall be included in the computation. As used in this section "legal holiday" includes New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, Christmas Day, and any other day appointed as a holiday by the President or the Congress of the United States.

(b) Extensions of any of the time periods set out in these regulations may be granted by the Secretary or, as appropriate, by a State Administrative Agency, upon a showing of good cause by the party governed by the time period.

2. By revising paragraphs (b) and (c) of § 3282.11 and adding a new paragraph (e) so that § 3282.11 reads as follows:

§ 3282.11 Preemption and reciprocity.

(a) No State mobile home standard regarding mobile home construction and safety which covers aspects of the mobile home governed by the Federal standards shall be established or continue in effect with respect to mobile homes subject to the Federal standards and these regulations unless it is identical to the Federal standards.

(b) No State may require, as a condition of entry into or sale in the State, that a mobile home which has been certified as in conformance with the Federal standards by the application of the label required by § 3282.362(c)(2)(i) be subjected to state inspection to determine compliance with any standard covering any aspect of the mobile home covered by the Federal standard, except that a State may inspect a home to determine compliance with the Federal standard or an identical State standard if a transition certification label has been affixed to the home under § 3282.207. Nor may any State require that a State label certifying conformance to the Federal standard or an identical standard be placed on the mobile home, except that such a label may be required where a transition certification label has been affixed to the home under § 3282.207. Certain actions which States are permitted to take are set out in § 3282.303 of Subpart G of this part.

(c) States may participate in the enforcement of the Federal standards enforcement program under these regulations either as SAAs or PIAs or both. These regulations establish the exclusive system for enforcement of the Federal standards. No State may establish or keep in effect through a building code enforcement system or otherwise, procedures or requirements which constitute systems for enforcement of the Federal standards or of identical State standards which are outside the system established in these regulations or which go beyond this system to require remedial actions which are not required by the Act and these regulations. A state may establish or continue in force consumer protections, such as warranty or warranty performance requirements, which respond to individual consumer complaints and so do not constitute systems of enforcement of the Federal standards, regardless of whether the State qualifies as an SAA or PIA.

(d) Except where a State is inspecting or providing a State label for a mobile home to which a transition certification label has been applied under § 3283.207, and except where a State is providing one of the services mentioned in § 3283.303, and except where a State is acting as a PIA, no State may charge a fee for any services provided under these regulations. Further no State may charge a fee which is designed simply to replace revenues lost when this program replaces the State program or a fee which burdens interstate commerce, or a fee which, in itself or as it is administered, constitutes a system of enforcement of the Federal standards or of an identical State standard.

(e) No State or locality may establish or enforce any rule or regulation or take any action that stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress. The test of whether a State rule or action is valid or must give way is whether the State rule can be enforced or the action taken without impairing the Federal superintendence of the mobile home industry as established by the Act.

3. By amending § 3282.362 by deleting the last two sentences of paragraph (a)(1)(v) and by amending paragraph (c)(2)(i)(C) to read as follows:

§ 3282.362 Production Inspection Primary Inspection Agencies (PIAs).

(a) * * *

(1) * * *

(v) [Amended]

* * * * *

(c) * * *

(2) * * *

(i) * * *

(C) The label shall read as follows: "As evidenced by this label No. ABC 000 001, the manufacturer certifies to the best of the manufacturer's knowledge and belief that this mobile home has been inspected in accordance with the requirements of the Department of Housing and Urban Development and is constructed in conformance with the Federal Mobile Home Construction and Safety Standards in effect on the date of manufacture. See data plate." However, labels containing the language specified in 24 CFR 3282.362 as issued on May 13, 1976, at 41 FR 19869, shall be used until inventories held by IPIA's as of December 31, 1976, are exhausted, except that all labels applied to mobile homes on or after June 30, 1977, shall contain the language set out herein.

4. By adding a new § 3282.366 to read as follows:

§ 3282.366 Notification and correction campaign responsibilities.

(a) Both IPIAs and DAPIAs are responsible for assisting the Secretary or an SAA in identifying the class of mobile homes that may have been affected where the Secretary or an SAA makes or is contemplating making a preliminary determination of imminent safety hazard, serious defect, defect, or noncompliance under § 3282.407 with respect to mobile homes for which the IPIA or DAPIA provided either plant inspection or design approval services.

(b) The IPIA in each manufacturing plant is responsible for reviewing manufacturer determinations of the class of mobile homes affected when the manufacturer is acting under § 3282.404. The IPIA shall concur in the method used to determine the class of potentially affected mobile homes or shall state why it finds the method to be inappropriate, inadequate or incorrect.

5. By revising Subpart I of Part 3282 to read as follows:

Subpart I—Consumer Complaint Handling and Remedial Actions

Sec.

3282.401 Purpose and scope.
3282.402 General principles.
3282.403 Consumer complaint and information referral.
3282.404 Notification pursuant to manufacturer's determination.
3282.405 SSA responsibilities.
3282.406 Required manufacturer correction.
3282.407 Notification and correction pursuant to administrative determination.
3282.408 Reimbursement for prior correction by owner.
3282.409 Manufacturer's plan for notification and correction.
3282.410 Contents of notice.
3282.411 Time for implementation.
3282.412 Completion of remedial actions and report.
3282.413 Replacement or repurchase of mobile home from purchaser.
3282.414 Mobile homes in the hands of dealers and distributors.
3282.415 Notices, bulletins and other communications.
3282.416 Supervision of notification and correction actions.

Authority: Sec. 625, National Mobile Home Construction and Safety Standards Act of 1974, 42 U.S.C. 5424, sec. 7(d), Department of Housing and Urban Development Act, 42 U.S.C. 3535(d).

Subpart I—Consumer Complaint Handling and Remedial Actions

§ 3282.401 Purpose and scope.

(a) The purpose of this subpart is to establish a system under which the protections of the Act are provided with a minimum of formality and delay, but in which the rights of all parties are protected.

(b) This subpart sets out the procedures to be followed by manufacturers, State Administrative Agencies, primary inspection agencies, and the Secretary to assure that manufacturers provide notification and correction with respect to their mobile homes as required by the Act. Notification and correction may be required to be provided with respect to mobile homes that have been sold or otherwise released by the manufacturer to another party when the manufacturer, an SAA or the Secretary determines that an imminent safety hazard, serious defect, defect, or noncompliance may exist in those mobile homes as set out herein.

(c) This subpart sets out the rights of dealers under section 613 of the Act, 42 U.S.C. 5412, to obtain remedies from manufacturers in certain circumstances.

§ 3282.402 General principles.

(a) Nothing in this subpart or in these regulations shall limit the rights of the purchaser under any contract or applicable law.

(b) The liability of mobile home manufacturers to provide remedial actions under this subpart is limited by the principle that manufacturers are not responsible for failures that occur in mobile homes or components solely as the result of normal wear and aging, gross and unforeseeable consumer abuse, or unforeseeable neglect of maintenance.

(c) The extent of a manufacturer's responsibility for providing notification or correction depends upon the seriousness of problems for which the manufacturer is responsible under this subpart.

(d) When manufacturers act under § 3282.404 of these regulations, they will not be required to classify the problem that triggered their action as a noncompliance, defect, serious defect, or imminent safety hazard.

(e) It is the policy of these regulations that all consumer complaints or other information indicating the possible existence of an imminent safety hazard, serious defect, defect, or noncompliance should be referred to the manufacturer of the potentially affected mobile homes as early as possible so that the manufacturer can begin to timely respond to the consumer and take any necessary remedial actions.

§ 3282.403 Consumer complaint and information referral.

When a consumer complaint or other information indicating the possible existence of a noncompliance, defect, serious defect, or imminent safety hazard is received by a State Administrative Agency or the Secretary, the SAA or the Secretary shall forward the complaint or other information to the manufacturer of the mobile home in question. The SAA or the Secretary shall, when it appears from the complaint or other information that more than one mobile home may be involved, simultaneously send a copy of the complaint or other information to the SAA of the State where the mobile home was manufactured or to the Secretary if there is no such SAA, and when it appears that an imminent safety hazard or serious defect may be involved, simultaneously send a copy to the Secretary.

§ 3282.404 Notification pursuant to manufacturer's determination.

(a) The manufacturer shall provide notification as set out in this subpart with respect to all mobile homes produced by the manufacturer in which there exists or may exist an imminent safety hazard or serious defect. The manufacturer shall provide such notification with respect to mobile homes produced by the manufacturer in which a defect exists or may exist if the manufacturer has information indicating that the defect may exist in a class of mobile homes that is identifiable because the cause of the defect or defects actually known to the manufacturer is such that the same defect would probably have been systematically introduced into more than one mobile home during the course of production. This information may include, but is not limited to, complaints that can be traced to the same cause, defects known to exist in supplies of components or parts, information related to the performance of a particular employee and information indicating a failure to follow quality control procedures with respect to a particular aspect of the mobile home. A manufacturer is required to provide notification with respect to a noncompliance only after the issuance of a final determination under § 3282.407.

(b) Whenever the manufacturer receives from any source information that may indicate the existence of a problem in a mobile home for which the manufacturer is responsible for providing notification under paragraph (a) of this section, the manufacturer shall, as soon as possible, but not later than 20 days after receipt of the information, carry out any necessary investigations and inspections to determine and shall determine whether the manufacturer is responsible for providing notification under paragraph (a) of this section. The manufacturer shall maintain complete records of all such information and determinations in a form that will allow the Secretary or an SAA readily to discern who made the determination with respect to a particular piece of information, what the determination was, and the basis for the determination. Such records shall be kept for a minimum of five years from the date the manufacturer received the information. Consumer complaints or other information indicating the possible existence of noncompliances or defects received prior to the effective date of this section shall, for purposes of this subpart, be deemed to have been received on the date this section became effective.

(c) If a manufacturer determines under paragraph (b) of this section that the manufacturer is responsible for providing notification under paragraph (a) of this section, the manufacturer shall prepare a plan for notification as set out in § 3282.409. Where the manufacturer is required to correct under § 3282.406, the manufacturer shall include in the plan provision for correction of affected mobile homes. The manufacturer shall, as soon as possible, but not later than 20 days after making the determination, submit the plan to one of the following, as appropriate:

(1) Where the mobile homes covered by the plan were all manufactured in one State, to the SAA of the State of manufacture;

(2) Where the mobile homes were manufactured in more than one State, to the Secretary; or

(3) Where there is no appropriate SAA under subparagraph (1) of this paragraph, to the Secretary.

However, where only one mobile home is involved, the manufacturer need not submit the plan if the manufacturer corrects the mobile home within the 20 day period. The manufacturer shall maintain, in the plant where the mobile home was manufactured, a complete record of the correction. The record shall describe briefly the facts of the case and state what corrective actions were taken, and it shall be maintained in a separate file in a form that will allow the Secretary or an SAA to review all such corrections.

(d) Upon approval of the plan with any necessary changes, the manufacturer shall carry out the approved plan within the time limits stated in it.

(e) In any case, the manufacturer may act prior to obtaining approval of the plan. However, such action is subject to review and disapproval by the SAA of the State where the mobile home is located, the SAA of the State where the mobile home was manufactured, or the Secretary, except to the extent that agreement to the correction is obtained as described in this paragraph. To be assured that the corrective action will be accepted, the manufacturer may obtain the agreement of either SAA or the Secretary that the corrective action is adequate before the correction is made regardless of whether a plan has been submitted under paragraph (c) of this section. If such an agreement is obtained, the correction shall be accepted as adequate by all SAAs and the Secretary if the correction is made as agreed to and any imminent safety hazard or serious defect is eliminated.

(f) If the manufacturer wishes to obtain a waiver of the formal plan approval and notification requirements that would result from a determination under paragraph (b) of this section, the manufacturer may act under this paragraph. The plan approval and notification requirements shall be waived by either the SAA or the Secretary that would otherwise review the plan under paragraph (c) of this section if

(1) The manufacturer, before the expiration of the time period determined under pargaraph (c) of this section, shows to the satisfaction of the SAA or the Secretary, through such documentation as the SAA or the Secretary may require, that:

(i) The manufacturer has identified the class of possibly affected mobile homes in accordance with § 3282.409.

(ii) The manufacturer will correct, at the manufacturer's expense, all affected mobile homes in the class within 60 days of being informed that the request for waiver has been accepted; and

(iii) The proposed repairs are adequate to remove the failure to conform or imminent safety hazard that gave rise to the determination under paragraph (b) of this section; and

(2) The manufacturer corrects all affected mobile homes within 60 days of being informed that the request for waiver has been accepted. The formal plan and notification requirements are waived pending final resolution of a waiver request under this paragraph (f) as of the date of such a request. If a waiver request is not accepted, the plan called for by paragraph (c) of this section shall be submitted within 5 days after the manufacturer is notified that the request was not accepted.

§ 3282.405 SAA Responsibilities.

(a) As set out at § 3282.302(b)(5), each SAA is responsible for overseeing the handling of consumer complaints by manufacturers within the state. As part of that responsibility, the SAA is required to monitor manufacturer compliance with this subpart, and particularly with § 3282.404. This monitoring will be done primarily by periodically checking the records that manufacturers are required to keep under § 3282.404(b).

(b) If the SAA acting under paragraph (a) finds that a manufacturer has failed to comply with § 3282.404, or if the SAA finds that the manufacturer has decided not to act under § 3282.404(c) where the SAA believes the manufacturer is required to act, or if the manufacturer failed to fulfill the requirements of § 3282.404(f) after requesting a waiver under that paragraph, the SAA shall make such preliminary determinations as it deems appropriate under § 3282.407 (b), except that if the affected mobile homes were manufactured in more than one state or if it appears that the appropriate preliminary determination would be an imminent safety hazard or serious defect, the SAA shall refer the matter to the Secretary.

(c) Where an SAA that is reviewing a plan under § 3282.404(c) finds that the manufacturer is not acting reasonably in refusing to accept changes to a proposed plan, the SAA shall make such preliminary determinations as may be appropriate under § 3282.407, except that where it appears that it would be appropriate to make a preliminary determination of imminent safety hazard or serious defect, the SAA shall refer the matter to the Secretary.

§ 3282.406 Required manufacturer correction.

A manufacturer required to furnish notification under § 3282.404 or § 3282.407 shall correct, at its expense, any imminent safety hazard or serious defect that can be related to an error in design or assembly of the mobile home by the manufacturer, including an error in design or assembly of any component or system incorporated in the mobile home by the manufacturer.

§ 3282.407 Notification and correction pursuant to administrative determination.

(a) *Preliminary determinations.* (1) Whenever the Secretary has information indicating the possible existence of an imminent safety hazard or serious defect in a mobile home, the Secretary may issue a preliminary determination to that effect to the manufacturer.

(2) Whenever the information referred to in paragraph (a)(1) of this section indicates that the manufacturer is required to correct the imminent safety hazard or serious defect under § 3282.406, the Secretary may issue a preliminary determination to that effect to the manufacturer.

(3) Whenever an SAA has information indicating that a defect or noncompliance may exist in a class of mobile homes that is identifiable because the cause of the defect or noncompliance is such that the same defect or noncompliance would probably have been systematically introduced into more than one mobile home during the course of production, and all mobile homes in the class appear to have been manufactured in that State, the SAA may issue a preliminary determination of defect or noncompliance to the manufacturer. Information on which an SAA may base a conclusion that an appropriate class of mobile homes exists may include, but is not limited to, complaints that can be traced to the same cause, defects known to exist in supplies of components or parts, information related to the performance of a particular employee, and information indicating a failure to follow quality control procedures with respect to a particular aspect of the mobile home. If, during the course of these proceedings, evidence arises that indicates that mobile homes in the same identifiable class were manufactured in more than one state, the SAA shall refer the matter to the Secretary. The Secretary may make a preliminary determination of noncompliance or defect where there is evidence that a noncompliance or defect may exist.

(b) *Notice and request for hearing or presentation of views.* (1) Notice of the preliminary determination shall be sent by certified mail and shall include:

(i) The factual basis for the determination and

(ii) The identifying criteria of the mobile homes known to be affected and those believed to be in the class of possibly affected mobile homes.

(2) The notice shall inform the manufacturer that the preliminary determination shall become final unless the manufacturer requests a hearing or presentation of views under Subpart D of this part within 15 days of receipt of a Notice of Preliminary Determination of serious defect, defect, or noncompliance, or within 5 days of receipt of a Notice of Preliminary Determination of imminent safety hazard.

(3) Promptly upon receipt of a manufacturer's request for a hearing or presentation of views, one shall be held pursuant to § 3282.152.

(4) Parties may propose in writing, at any time, offers of settlement which shall be submitted to and considered by the Secretary or the SAA that issued the Notice of Preliminary Determination. If determined to be appropriate, the party making the offer may be given an opportunity to make an oral presentation in support of such offer. If an offer of settlement is rejected, the party making the offer shall be so notified and the offer shall be deemed withdrawn and shall not constitute a part of the record in the proceeding. Final acceptance by the Secretary or an SAA of any offer to settlement shall automatically terminate any proceedings related thereto.

(c) *Final determinations.* (1) If the manufacturer fails to respond to the notice of preliminary determination within the time period established in paragraph (b)(2) of this section, or if the SAA or the Secretary decides that the views and evidence presented by the manufacturer or others are insufficient to rebut the preliminary determination, the SAA or the Secretary, as appropriate, shall make a final determination that an imminent safety hazard, serious defect, defect, or noncompliance exists. In the event of a final determination that an imminent safety hazard, serious defect, defect or noncompliance exists, the SAA or the Secretary shall issue an order directing the manufacturer to furnish notification. If the Secretary makes a final determination that the manufacturer is required to correct, the Secretary shall issue an order directing the manufacturer to provide correction.

(2) *Appeals.* When an SAA has made a final determination that a defect or noncompliance exists, the manufacturer may, within 10 days after receipt of the notice of such final determination, appeal to the Secretary under § 3282.309.

(d) Where a preliminary determination of defect or noncompliance has been issued, the manufacturer may, at any time during the proceedings called for in this section or after the issuance of a Final Determination and Order, request a waiver of the formal notification requirements. The manufacturer may request such a waiver from the SAA that is handling the proceedings, or if the Secretary is handling the proceedings, from the Secretary. When requesting such a waiver, the manufacturer shall certify and provide assurances that:

(1) The manufacturer has identified the class of possibly affected mobile homes in accordance with § 3282.409;

(2) The manufacturer will correct, at the manufacturer's expense, all affected mobile homes in the class within a time period specified by the SAA or the Secretary but not later than 60 days after being informed of the acceptance of the request for waiver or issuance of the Final Determination, whichever is later; and

(3) The proposed repairs are adequate to remove the failure to conform or imminent safety hazard that gave rise to the issuance of the Preliminary Determination.

The SAA or the Secretary may grant the request for waiver if the manufacturer agrees under paragraph (b)(4) of this section to an offer of settlement that includes an order that embodies the assurances made by the manufacturer.

§ 3282.408 Reimbursement for prior correction by owner.

A manufacturer that is required to correct under § 3282.406 or that decides to correct and obtain a waiver under § 3282.404(f) or 3282.407(d) shall provide reimbursement for reasonable cost of correction to any owner of an affected mobile home who chose to make the correction before the manufacturer did so.

§ 3282.409 Manufacturer's plan for notification and correction.

(a) This section sets out the requirements that shall be met by manufacturers in preparing plans they are required to submit under § 3282.404(c). The underlying requirement is that the plan show how the manufacturer will fulfill its responsibilities with respect to notification and correction that arise under this Subpart I.

(b) The plan shall include a copy of the proposed notice that meets the requirements of § 3282.410.

(c) The plan shall identify, by serial number and other appropriate identifying criteria, all mobile homes with respect to which notification is to be provided. The class of mobile homes with respect to which notification shall be provided and which shall be covered by the plan is that class of homes that was or is suspected of having been affected by the cause of an imminent safety hazard or failure to conform. The class is identifiable to the extent that the cause of the imminent safety hazard or failure to conform is such that it would probably have been systematically introduced into the mobile homes in the class during the course of production. In determining the extent of such a class, the manufacturer may rely either upon information that positively identifies the extent of the class or upon information that indicates what mobile homes were not affected by the same cause, thereby identifying the class by excluding those mobile homes. Methods that may be used in determining the extent of the class of mobile homes include, but are not limited to:

(1) Inspection of mobile homes produced before and after the mobile homes known to be affected;

(2) Inspection of manufacturer quality control records to determine whether quality control procedures were followed;

(3) Inspection of IPIA records to determine whether the imminent safety hazard or failure to conform was either detected or specifically found not to exist in some mobile homes;

(4) Inspection of the design of the mobile home in question to determine whether the imminent safety hazard or failure to conform resulted from the design itself;

(5) Identification of the cause as relating to a particular employee or process that was employed for a known period of time or in producing the mobile homes manufactured during that time;

(6) Inspection of records relating to components supplied by other parties and known to contain or suspected of containing imminent safety hazards or failures to conform.

The class of mobile homes identified by these methods may include only mobile homes actually affected by the imminent safety hazard or failure to conform if the manufacturer can identify the precise mobile homes. If it is not possible to identify the precise mobile homes, the class shall include mobile homes suspected of containing the imminent safety hazard or failure to conform because the evidence shows that they may have been affected.

(d) The plan shall include a statement by the IPIA operating in each plant in which mobile homes in question were produced. In this statement, the IPIA shall concur in the methods used by the manufacturer to determine the class of potentially affected mobile homes or state why it believes the methods to have been inappropriate, inadequate, or incorrect.

(e) The plan shall include a deadline for completion of all notifications and corrections.

(f) The plan shall provide for notification to be accomplished:

(1) By certified mail or other more expeditious means to the dealers or distributors of such manufacturer to whom such mobile home was delivered. Where a serious defect or imminent safety hazard is involved, notification shall be sent by certified mail if it is mailed; and

(2) By certified mail to the first purchaser of each mobile home in the class of mobile homes set out in the plan under paragraph (c) of this section, and to any subsequent owner to whom any warranty provided by the manufacturer or required by Federal, State or local law on such mobile home has been transferred, to the extent feasible, except that notification need not be sent to any person known by the manufacturer not to own the mobile home in question if the manufacturer has a record of a subsequent owner of the mobile home; and

(3) By certified mail to any other person who is a registered owner of each mobile home containing the imminent safety hazard, serious defect, defect, or noncompliance and whose name has been ascertained pursuant to § 3282.211.

§ 3282.410 Contents of notice.

Except as otherwise agreed by the Secretary or the SAA reviewing the plan under § 3282.404(c), the notification to be sent by the manufacturer shall include the following:

(a) An opening statement: "This notice is sent to you in accordance with the requirements of the National Mobile Home Construction and Safety Standards Act of 1974."

(b) Except where the manufacturer is acting under § 3282.404, the following statement, as appropriate: "(Manufacturer's name or the Secretary, or the appropriate SAA)" has determined that:

(1) An imminent safety hazard may exist in (identifying criteria of mobile home).

(2) A serious defect may exist in (identifying criteria of mobile home).

(3) A defect may exist in (identifying criteria of mobile home).

(4) (Identifying criteria of mobile home) may not comply with an applicable Federal Home Construction or Safety Standard."

(c) A clear description of the imminent safety hazard, serious defect, defect, or noncompliance which shall include:

(1) The location of the imminent safety hazard, serious defect, defect, or noncompliance in the mobile home;

(2) A description of any hazards, malfunctions, deterioration or other consequences which may result from the imminent safety hazard, serious defect, defect, or noncompliance;

(3) A statement of the conditions which may cause such consequences to arise; and

(4) Precautions, if any, that the owner should take to reduce the chance that the consequences will arise before the mobile home is repaired.

(d) An evaluation of the risk to mobile home occupants' safety and the durability of the mobile home reasonably related to such imminent safety hazard, serious defect, defect, or noncompliance, including:

(1) The type of injury which may occur to occupants of the mobile home; and

(2) Whether there will be any warning that a dangerous occurrence may take place and what that warning would be, and any signs which the owner might see, hear, smell, or feel which might indicate danger or deterioration of the mobile home as a result of the imminent safety hazard, serious defect, defect, or noncompliance.

(e) If the manufacturer will correct the mobile home under this subpart or otherwise, a statement that the manufacturer will correct the mobile home.

(f) A statement in accordance with whichever of the following is appropriate:

(1) Where the manufacturer will correct the mobile home at no cost to the owner, the statement shall indicate how and when the correction will be done, how long the correction will take, and any other information that may be helpful to the owner.

(2) When the manufacturer does not bear the cost of repair, the notification shall include a detailed description of all parts and materials needed to make the correction, a description of all steps to be followed in making the correction including appropriate illustrations, and an estimate of the cost to the purchaser or owner of the correction.

(g) A statement informing the owner that the owner may submit a complaint to the Secretary if the owner believes that:

(1) The notification or the remedy described therein is inadequate; or

(2) The manufacturer has failed or is unable to remedy the problem in accordance with his notification; or

(3) The manufacturer has failed or is unable to remedy within a reasonable time after the owner's first attempt to obtain remedy.

(h) A statement that any actions taken by the manufacturer under the Act in no way limit the rights of the owner or any other person under any contract or other applicable law and that the owner may have further rights under contract or other applicable law.

§ 3282.411 Time for implementation.

(a) The manufacturer shall complete implementation of the plan for correction approved under § 3282.404(d) on or before the deadline established in the plan as required by § 3282.409(e). The deadline shall allow a reasonable amount of time to complete the plan, taking into account the seriousness of the problem, the number of mobile homes involved, the immediacy of any risk, and the difficulty of completing the action. The seriousness and immediacy of any risk shall be given greater weight than other considerations. If a manufacturer is required to correct an imminent safety hazard or serious defect under § 3282.406, the deadline shall be no later than 60 days after approval of the plan.

(b) The manufacturer shall complete the implementation of any notifications and corrections being carried out under an order of an SAA or the Secretary under § 3282.407(c) on or before the deadline established in the order. In establishing each deadline, an SAA or the Secretary shall allow a reasonable time to complete all notifications and corrections, taking into account the seriousness of the imminent safety harzard, serious defect, defect or noncompliance, the number of mobile homes involved, the location of the homes, and the extent of correction required, except that in no case shall the time allowed exceed the following limits:

(1) In the case of a Final Determination of imminent safety hazard, 30 days after the issuance of the Final Determination.

(2) In the case of a Final Determination of serious defect, defect or noncompliance, 60 days after the issuance of the Final Determination.

(c) An SAA that approved a plan or is handling a proceeding or the Secretary may grant an extension of the deadlines included in a plan or order if the manufacturer requests such an extension in writing and shows good cause for the extension, and the SAA or the Secretary is satisfied that the extension is justified in the public interest. When the Secretary grants an extension, the Secretary shall notify the manufacturer and shall publish notice of such extension in the FEDERAL REGISTER. When an SAA grants an extension, the SAA shall notify the manufacturer, and forward to the Secretary a draft notice of the extension to be published in the FEDERAL REGISTER.

§ 3282.412 Completion of remedial actions and report.

(a) Where a manufacturer is required to provide notification under this subpart, the manufacturer shall maintain in its files for five years from the date the notification campaign is completed a copy of the notice sent and a complete list of the people and their addresses. The files referred to in this section shall be organized such that each notification and correction campaign can be readily identified and reviewed by an SAA or the Secretary.

(b) Where a manufacturer is required to provide correction under § 3282.406 or where the manufacturer otherwise corrects under § 3282.404(f) or § 3282.407 (d), the manufacturer shall maintain in its files, for five years from the date the correction campaign is completed, one of the following, as appropriate, for each mobile home involved.

(1) Where the correction is made, a certification by the manufacturer that the repair was made to satisfy completely the standards in effect at the time the mobile home was manufactured and that any imminent safety hazard has been eliminated, or

(2) Where the owner refuses to allow the manufacturer to repair the home, a certification by the manufacturer that the owner has been informed of the problem which may exist in the mobile home, that the owner has been informed of any risk to safety or durability of the mobile home which may result from the problem, and that an attempt has been made to repair the problems only to have the owner refuse the repair.

(c) If any actions taken under this subpart are not adequate under the approved plan or an order of the Secretary or an SAA, the manufacturer may be required to provide additional notifications or corrections to satisfy the plan or order.

(d) If, in the course of making corrections under any of the provisions of this subpart, the manufacturer creates an imminent safety hazard or serious defect, the manufacturer shall correct the imminent safety hazard or serious defect under § 3282.406.

(e) The manufacturer shall, within 30 days after the deadline for completing any notifications and, where required, corrections, under an approved plan or under an order of an SAA or the Secretary, or any corrections required to obtain a waiver under § 3282.404(f) or § 3282.407(d), provide a complete report of the action taken to the SAA or the Secretary that approved the plan under § 3282.404(d), granted the waiver, or issued the order under § 3282.407(c), and to any other SAA or the Secretary that forwarded a relevant complaint or information to the manufacturer under § 3282.403.

§ 3282.413 Replacement or repurchase of mobile home from purchaser.

(a) Whenever an imminent safety hazard or serious defect which must be corrected by the manufacturer at his expense under § 3282.407 cannot be repaired within 60 days in accordance with section 615(i) of the Act, the Secretary may require:

(1) That the mobile home be replaced by the manufacturer with a mobile home substantially equal in size, equipment, and quality, and either new or in the same condition the defective mobile home would have been in at the time of discovery of the imminent safety hazard or serious defect had the imminent safety hazard or serious defect not existed; or

(2) That the manufacturer take possession of the mobile home and refund the purchase price in full, less a reasonable allowance for depreciation based on actual use if the home has been in the possession of the owner for more than one year. Such depreciation shall be based upon an appraisal system approved by the Secretary, and shall not take into account damage or deterioration resulting from the imminent safety hazard or serious defect.

(b) In determining whether to order replacement or refund by the manufacturer, the Secretary shall consider:

(1) The threat of injury or death to mobile home occupants;

(2) Any costs and inconvenience to mobile home owners which will result from the lack of adequate repair within the specified period;

(3) The expense to the manufacturer;

(4) Any obligations imposed on the manufacturer under contract or other applicable law of which the Secretary has knowledge; and

(5) Any other relevant factors which may be brought to the attention of the Secretary.

(c) In those situations where, under contract or other applicable law, the owner has the right of election between replacement and refund, the manufacturer shall inform the owner of such right of election and shall inform the Secretary of the election, if any, by the owner.

(d) This section applies where an attempted correction of an imminent safety hazard or serious defect relieves the safety problem but does not bring the home in conformity to the standards.

(e) Where replacement or refund by the manufacturer is ordered under this section, it shall be carried out within 30 days of the Secretary's order to replace the mobile home or refund the purchase price unless the Secretary, for good cause shown, grants an extension of time for implementation of such order and publishes notice of extension in the FEDERAL REGISTER.

§ 3282.414 Mobile Homes in the hands of dealers and distributors.

(a) The manufacturer is responsible for correcting any failures to conform and imminent safety hazards which exist in mobile homes which have been sold or otherwise released to a distributor or dealer but which have not yet been sold to a purchaser. This responsibility generally does not extend to failures to conform or imminent safety hazards that result solely from transit damage that occurs after the mobile home leaves the control of the manufacturer, unless such transit damage is reasonably forseeable by the manufacturer when the home is released by the manufacturer. This section sets out the procedures to be followed by dealers and distributors for handling mobile homes in such cases. Regardless of whether the manufacturer is responsible for repairing a mobile home, no dealer or distributor may sell a moble home if it contains a failure to conform or an imminent safety hazard.

(b) Whenever a dealer or distributor finds a problem in a mobile home which the manufacturer is responsible for correcting under paragraph (a) of this section, the dealer or distributor shall contact the manufacturer, provide full information concerning the problem, and request appropriate action by the manufacturer in accord with paragraph (c) of this section. Where the manufacturer agrees to correct, the manufacturer shall maintain a complete record of its actions. Where the manufacturer authorizes the dealer to make the necessary corrections on a reimbursable basis, the dealer or distributor shall maintain a complete record of its actions. Agreement by the manufacturer to correct or to authorize corrections on a reimbursable basis under this subsection constitutes a determination of the Secretary for purposes of section 613(b) of the Act with respect to judicial review of the amount which the manufacturer agrees to reimburse the dealer or distributor for corrections.

(c) Upon a final determination by the Secretary or a State Administration Agency under § 3282.407, or upon a determination by a court of competent juristriaction that a mobile home fails to conform to the standard or contains an imminent safety hazard after such mobile home is sold or otherwise released by a manufacturer to a distributor or a dealer and prior to the sale of such mobile home by such distributor or dealer to a purchaser, the manufacturer shall have the option to either:

(1) Immediately furnish, at the manufacturer's expense, to the purchasing distributor or dealer the required conforming part or parts or equipment for installation by the distributor or dealer on or in such mobile home, and the manufacturer shall reimburse such distributor or dealer for the reasonable value of such installation plus a reasonable reimbursement of not less than one per centum per month of the manufacturer's or distributor's selling price prorated from the date of receipt by certified mail of notice of noncompliance to the date such mobile home is brought into compliance with the standards, so long as the distributor or dealer proceeds with reasonable diligence with the installation after the part or component is received; or

(2) Immediately repurchase, at the manufacturer's expense, such mobile home from such distributor or dealer at the price paid by such distributor or dealer, plus all transportation charges involved and a reasonable reimbursement of not less than one per centum per month of such price paid prorated from the date of receipt by certified mail of notice of the imminent safety hazard, serious defect, defect or noncompliance to the distributor. The value of such reasonable reimbursements as specified in this paragraph shall be fixed by mutual agreement of the parties or by a court in an action brought under section 613(b) of the Act.

(d) This section shall not apply to any mobile home purchased by a dealer or distributor which has been leased by such dealer or distributor to a tenant for purposes other than resale. In that instance the dealer or distributor has the remedies available to a purchaser under this subpart.

§ 3282.415 Notices, bulletins and other communications.

Each manufacturer shall, at the time of dispatch, furnish to the Secretary a true or representative copy of all notices, bulletins, and other written communica- such manufacturer or purchasers or owners of mobile homes of such manufacturers regarding any serious defect or imminent safety hazard which may exist in any such mobile homes produced by such manufacturer. Manufacturers shall keep complete records of all other communications with dealers, owners, and purchasers regarding noncompliances, and defects.

§ 3282.416 Supervision of notification and correction actions.

(a) The IPIA in each manufacturing plant shall be responsible for assuring that notifications are sent to all owners, purchasers, dealers, or distributors of whom the manufacturer has knowledge under § 3282.211 or otherwise as required by these regulations, and the IPIA shall be responsible for assuring that the required corrections are carried out by auditing the certificates required by § 3282.412.

(b) The SAA or Secretary to which the report required by § 3282.412(e) is sent shall be responsible for assuring through oversight that remedial actions described in the report have been carried out as described in the report.

(c) The SAA of the state in which an affected mobile home is located may inspect that mobile home to determine whether any required correction is carried out to the approved plan or, if there is no plan, to the standards or other approval obtained by the manufacturer.

(Sec. 625, National Mobile Home Construction and Safety Standards Act of 1974 (42 U.S.C. 5424); section 7(d), Department of Housing and Urban Development Act (42 U.S.C. 3535(d)))

Effective date. These amendments shall take effect on February 11, 1977.

Issued at Washington, D.C. on January 4, 1977.

CONSTANCE B. NEWMAN,
Assistant Secretary for Consumer Affairs and Regulatory Functions.

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PART IV

THE NATIONAL ARCHIVES OF THE UNITED STATES
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ENVIRONMENTAL PROTECTION AGENCY

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TOXIC POLLUTANT EFFLUENT STANDARDS

Standard for Aldrin/Dieldrin, Benzidine, DDT (DDD, DDE), Endrin and Toxaphene; Final Decision

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

[FRL 668-8]

PART 129—TOXIC POLLUTANT EFFLUENT STANDARDS

Standards for Aldrin/Dieldrin, DDT (DDD, DDE), Endrin and Toxaphene; Final Decision

This is a rulemaking proceeding under § 307(a) of the Federal Water Pollution Control Act, as amended (the "Act"), 33 U.S.C. § 1251 et seq. On June 10, 1976, the Environmental Protection Agency (the "Agency") published proposed regulations pursuant to § 307(a)(2) of the Act, consisting of general regulatory provisions and toxic pollutant effluent standards for four toxic substances: aldrin/dieldrin, DDT (DDD DDE), endrin and toxaphene. (41 FR 23576) The general regulatory provisions (§§ 129.1–129.8) are not "standards" within the meaning of § 307(a) and therefore did not require formal rulemaking hearings. However, the Agency proposed them together with the standards in the belief that permitting public comment on both would result in more informed rulemaking. This decision will deal with both the proposed general regulatory provisions and the proposed toxic effluent standards.

Because filing of this decision has been delayed past the statutory deadline and past the deadline stipulated in the consent agreement in *NRDC* v. *Train*, Civ. No. 75–172, 8 E.R.C. 2120 (D.D.C. June 9, 1976), I have determined in accordance with 40 CFR § 104.14(c) that the preparation and filing of a tentative decision and related procedures pursuant to 40 CFR § 104.14(b) should be omitted.

Background

On July 6, 1973, pursuant to § 307(a)(1) of the Act, the Agency published in the Federal Register a list of nine toxic pollutants: aldrin/dieldrin, benzidine, cadmium, cyanide, DDT (DDD, DDE), endrin, mercury, polychlorinated biphenyls and toxaphene. (38 FR 18044) On September 7, 1973, this list was promulgated by the agency as proposed, together with a discussion of the Agency's selection criteria and a response to the public comments received on the proposed list. (38 FR 24342) On December 27, 1973, pursuant to § 307(a)(2) the Agency published proposed toxic pollutant effluent standards for each of the nine listed substances, together with a discussion of the factors consiedred in setting the standards, and a list of point source categories of discharges proposed to be covered. (38 FR 35388) Because the proposed standards were developed under severe time constraints imposed by the court order in *Natural Resources Defense Council* v. *Train*, Civ. Action No. 849–73 (D.D.C. June 19, 1973, as modified), the Agency lacked sufficient time to develop data in certain areas.

In accordance with § 307(a)(2) of the Act, a rulemaking hearing was held during April and May, 1974. After reviewing the record of this hearing, the Agency concluded that the record did not contain sufficient evidence for promulgation of responsible and defensible standards and that no specific modification could be "justified based upon a preponderance of evidence adduced at the hearings" in accordance with § 307(a) (2) and (3) of the Act. As a result, the Agency decided not to promulgate standards based on this record, but to gather additional data the revise and repropose its toxic pollutant effluent standards. The background and circumstances surrounding this decision are more fully set forth in the preamble to the June 10, 1976 proposal. (41 FR 23576–9)

Each of the proposed standards provides for maximum average daily and monthly effluent standards (or prohibitions); the standards for endrin and toxaphene also include a monthly average mass emission limit. In addition, each standard provides an ambient water criterion; if the effluent standards are not sufficient to achieve the ambient water criterion (because of local receiving water conditions), the cognizant regulating authority may impose more stringent effluent limitations in order to achieve the ambient water criterion.

In the period since the 1974 hearing, the Agency substantially expanded its data base with respect to toxicity and the environmental behavior and effects of the toxic pollutants, including human health effects. The Agency gave further attention to measuring and monitoring technology and reconsidered the hydrological assumptions underlying the standards which were proposed in 1973. In addition, the Agency reassessed its previously accumulated data with respect to the discharge of particular pollutants by particular industrial point source categories.

In light of the claims raised by industry objectors at the previous hearing, the Agency concluded that the interest of responsible rulemaking would be best served by giving at least some consideration to data on available control technologies and the likely impact, if any, of the proposed regulations on the national economy. However, the Agency determined that such factors must be given less weight than the environmental and public health factors required to be taken into consideration under § 307(a)(2) of the Act and for which the standards must provide "an ample margin of safety" as required by § 307(a)(4). (41 FR 23578)

In developing the proposed standards, the Agency collected and considered data relating to "the toxicity of the pollutant, its degradability, the usual or potential presence of the affected organisms in any waters, the importance of the affected organisms and the nature and extent of the effect of the toxic pollutant on such organisms", as required by § 307(a)(2) of the Act. In addition, the Agency considered available data concerning human health effects attributable to the toxic pollutants in response to the Act's manifest concern for protection of public health. After careful and thorough research, the Agency set forth extensive data concerning the toxicity, environmental fate and effects of the four pesticides in "criteria documents", one for each pesticide.

Dr. Leonard J. Guarraia, Chief of the Criteria Branch of EPA's Office of Water Planning and Standards, was responsible for the preparation of each of these criteria documents. In developing these documents, he conducted an extensive review of the scientific literature on both acute and chronic toxic effects of these substances on a wide range of aquatic organisms, consumers thereof and other animals. He gathered extensive data on the persistence, degradability and bioaccumulation of the pollutants in aquatic organisms, the presence of these organisms in various waters, and the importance of these organisms. He visited and contacted the various EPA laboratories throughout the country, and communicated with officials of various other government agencies with an interest or expertise in this area (including the Department of Health, Education, and Welfare, the Food and Drug Administration, and the National Cancer Institute). In addition, he obtained information from the National Library of Medical Information System, the Toxline Data Base, the Chemical Abstract Series, and the Biological Abstract Series. This research effort was carried out over approximately 1½ years prior to the Agency's June 10, 1976 proposal, and the results of this effort are set forth in the criteria documents.

Based upon the data in the criteria documents, the Agency established an "ambient water criterion" for each pollutant which would provide an ample margin of safety for all important organisms likely to be affected by it, assuming a continued or chronic presence of the pollutant at that level in the water. The Agency then established "end-of-the-pipe" effluent standards for new and existing sources which, taking into consideration the likely effects of dilution and dispersion following discharge in areas of mixing ("mixing zones") in the receiving waters immediately surrounding the area of the outfall, will achieve the ambient criteria. The Agency believes that this approach provides the degree of protection required under section 307(a)(4) of the Act without at the same time resulting in excessive and unjustifiable over-regulation.

In those cases where sufficient dispersion and dilution may not take place, the proposed regulations allow the permit-issuing authority to apply a "tightening" variance and impose on a discharger such more stringent effluent limitations as may be necessary in order to achieve the ambient water criterion. The purpose of this mechanism is to assure compliance with the statutory requirements of an "ample margin of safety".

In compliance with Executive Order No. 11821 (39 FR 41501), the Agency assessed the potential economic and inflation impact of the proposed regulations and concluded that there would be no significant adverse impact on production, prices or users of the four substances at issue in these proceedings. Accordingly, the Agency concluded that preparation of a formal Inflation Impact Statement (IIS) was not required.

In accordance with standard Agency practice and § 307(a)(7) of the Act, EPA circulated drafts of its proposed regulations, the supporting criteria documents and the technology and economic assessments to various other interested federal agencies, including the Departments of Commerce, Interior, Health, Education and Welfare, Agriculture, Defense, and the Office of Management and Budget for interagency review. All comments received were carefully reviewed and considered by the Agency before official publication of the proposed regulations. Following this review and EPA's own internal inter-office review, on June 10, 1976 the Agency reproposed toxic pollutant effluent standards for four toxic substances: aldrin/dieldrin, DDT (DDD, DDE), endrin and toxaphene. (41 FR 23576)

In accordance with § 104.3(d) of the Rules of Practice for Hearings on Effluent Standards for Toxic Pollutants (the "Rules of Practice"), 40 CFR Part 104 (41 FR 17898 et seq.), written comments received by the hearing clerk from the following interested persons were made a part of the record:

Olin (Corporate Health Affairs)
American Cyanamid Company
Dr. William E. Hazeltine
Rohm and Haas Company
National Fisheries Institute, Inc.
Vicksburg Chemical Company
Pesticide Formulators Association
National Agricultural Chemicals Association
Shell Oil Company
State of New York Department of Environmental Conservation
U.S. Department of Agriculture
Ford Motor Company
Manufacturing Chemists Association

With respect to the standards proposed for endrin and toxaphene, the following persons filed timely objections in accordance with § 104.3(a) of the Rules of Practice and were named parties to the public hearing:

American Petroleum Institute
American Iron and Steel Institute
Velsicol Chemical Corporation

and the following persons who filed one day late were permitted to become parties to the public hearings:

Hercules Incorporated
Environmental Defense Fund
Natural Resources Defense Council, Inc.

The validity of the approach taken by the Agency in developing the proposed standards was criticized in various regards by the commenters and the parties to the hearing. Their objections are discussed below.

The rulemaking hearing began within 30 days (as required under § 307(a)(2)) on July 9, 1976 and was continued thereafter on July 26, 27, 28, 29, and 30; August 2, 3, and 4; September 13, 14, 15, 16, 20, 21, and 22; and October 12, 1976. At these hearings, the Agency presented the testimony of twelve expert witnesses. Hercules, Inc. ("Hercules"), the nation's largest manufacturer of toxaphene, presented the testimony of six witnesses. Velsicol Chemical Company ("Velsicol"), the nation's only current manufacturer of endrin, presented the testimony of four witnesses, while the Environmental Defense Fund ("EDF") presented the testimony of one witness. No witnesses were presented by any of the other parties.

Under § 307(a)(2) the Administrator must promulgate each of the proposed standards unless he finds, on the record, that a modification of one or more of such standards is justified based upon a preponderance of evidence adduced at the hearing. This decision will set forth findings of fact and conclusions as to whether modification of any of the standards is justified, based upon a preponderance of the record evidence adduced at the hearing.

FINDINGS OF FACT AND CONCLUSIONS

Aldrin/Dieldrin, DDT, DDD and DDE

1. The toxic pollutant effluent standards proposed for manufacturers and formulators of aldrin/dieldrin, DDT, DDD and DDE require a prohibition on aldrin/dieldrin, DDT, DDD and DDE in any discharge from any such manufacturer or formulator, for both existing and new sources. (§ 129.100 and § 129.101 of the proposed standards.)

2. The Agency's statement of basis and purpose in support of these proposed standards was set forth in the preamble to the proposed standards. This statement incorporated by reference the EPA criteria documents for aldrin/dieldrin and for DDT (DDD, DDE) and summarized their content. These criteria documents, together with the references cited therein, document extensively the fact that aldrin/dieldrin, DDT, DDD and DDE are extremely toxic, that they are persistent and mobile in the environment, that they bioaccumulate in aquatic organisms, and that they pose substantial risks to human health. The statement of basis and purpose also summarized and incorporated by reference technology assessments prepared by Midwest Research Institute entitled "Wastewater Techonology Documentation for Aldrin/Dieldrin Manufacture" and "Wastewater Technology for DDT Manufacture", a study prepared by the EPA Office of Water Planning and Standards entitled "Wastewater Treatment Technology Documentation", and a report prepared by Arthur D. Little, Inc. for EPA entitled "Economic Assessment of Proposed Toxic Pollutant Standards for Manufacturers and Formulators of Aldrin/Dieldrin, DDT, Endrin and Toxaphene". The Agency's statement of basis and purpose establishes that the standards proposed for manufacturers and formulators of aldrin/dieldrin and DDT, DDD and DDE are technologically feasible, and that compliance therewith will not result in substantial or unreasonable adverse economic impact.

3. No objections to the standards proposed by the Agency for aldrin/dieldrin or for DDT, DDD and DDE were filed with the hearing clerk. Some comments addressed to the standards in general or to the aldrin/dieldrin and DDT standards in particular were submitted to the hearing clerk pursuant to § 104.3(d) of the Rules of Practice. These comments are discussed in the Summary of Written Comments.

4. One of the factors considered by the Agency in proposing a standard prohibiting DDT in any discharge from any DDT manufacturer was the apparent absence of any known present direct discharge. Rohm and Haas Company submitted a comment indicating that they are a former DDT manufacturer and utilize DDT in the manufacture of other pesticide products. Thus this company is a "DDT manufacturer" within the meaning of § 129.101(a)(2) of the proposed standards.

Apparently Rohm and Haas has no problem with the proposed standards insofar as they apply to its current use of DDT in the manufacture of other pesticides. Rather, they state that DDT which accumulated in the soil during the period when they manufactured it slowly infiltrates the below-ground network of cooling water system pipes that service the plant. The cooling water system draws water from the Delaware River and returns water containing "minute traces" of DDT to the river. Rohm and Haas believes that none of this DDT contamination results from its current manufacturing operations.

In a meeting with representatives of Rohm and Haas prior to the deadline for becoming a party to the hearings, Agency personnel informed the company that this contaminated discharge would be subject to the proposed regulations. Nevertheless Rohm and Haas did not appear or present any evidence at the hearing to support a modification of the proposed standards, but simply indicated in their comment that their cooling water discharge could not comply with a zero discharge standard.

They stated that because of the extremely large flow and very low level of DDT in the cooling water discharge there is no method of removal that is technologically or economically feasible. Their comment, however, did not consider the possibility of achieving compliance with the standard by replacing, shielding or lining the pipe from which DDT residues are being discharged, all of which the Agency believes would be feasible approaches to the problem. Moreover, Rohm and Haas submitted no information to the Agency to demonstrate the safety of a non-zero discharge.

5. No evidence of record from Rohm and Haas or any other commenter warrants any modification of the standards

proposed by the Agency for aldrin/dieldrin or DDT (DDD, DDE) "based upon a preponderance of evidence" in the hearing record.

Endrin

1. Endrin is a chlorinated cyclodiene pesticide widely used for control of pests such as the boll weevil and the sugar cane borer on cotton and sugar cane crops. Although its use has decreased in recent years due to the resistance developed by target species, it is still used alone or in combination with other pesticides for the control of some pests in some areas. Because it is non-polar, endrin dissolves more readily in fat than in water, a property common to organic pesticides which bioaccumulate. Endrin can be strongly adsorbed by particulate matter, a property of considerable importance for its distribution between the water and sediments of receiving water bodies. It has been shown that endrin is resistant to leaching from bottom sediments and from watersheds to which it has been applied.

2. Extrapolation from the effects found in laboratory and field testing is a reliable means for predicting effects of endrin on individual organisms and their food chains and is recognized as such by the scientific community. Bioassays are probably the most useful technique available to the biologist for predicting the potential hazard of a chemical in the laboratory. They range from relatively simple acute static and flow-through bioassays to complex chronic entire life-cycle and community bioassays. Laboratory bioassay tests may underestimate the toxicity of pollutants as compared with results obtained from field tests if (as may be the case under optimal bioassay conditions) bioassay test animals are well-fed, free of disease or injury, and free of stress caused by the presence of predators and/or physical conditions. On the other hand, laboratory tests may overestimate toxicity if the animals tested are stressed by the test environment. In the absence of studies or hard data demonstrating that laboratory tests either overestimate or underestimate toxicity, it is reasonable to assume that such tests correctly assess toxicity. Moreover, there are numerous variables in the field which could possibly enhance or decrease the toxicity of a substance. Thus, for instance, one study found that the toxicity of endrin to the fathead minnow was increased in hard water. Laboratory tests control such variables and permit the only practical basis for formulation of standards.

3. The LC 50 is the dose concentration which is found to be lethal to fifty percent of a test species population over a specified period of time. LC 50 values reported for static tests are likely to be substantially higher than LC 50 values for flow-through tests. This suggests loss of toxicant in static bioassays. Because "container wall" effects are likely to be negligible and the volume of water per fish is much greater, flow-through bioassays more accurately reflect the natural environment.

4. Toxic effects resulting from the presence of endrin in water have been documented for aquatic organisms representing a wide phylogenetic cross section and geographic distribution. Although the test organisms may not all be universally distributed in the waters of the United States, they represent types of organisms present in fresh, marine and estuarine water bodies throughout the country. Thus, while available data may not be present for either the most sensitive or most important organism at a given geographical location, the data are indicative of predictable toxicological effects in the aquatic environment.

The acute toxicity of a wide variety of aquatic invertebrates to endrin is set forth below:

Organism	Habitat	Duration (hours)	Concentration (μg/l)
Stonefly *Acroneuria pacifica*	(FW)	96 (F)	0.32
Stonefly *Pteronarcys californica*	(FW)	24 (S) 48 (S) 96 (S)	4.0 .56 .25
Stonefly *Pteronarcella badia*	(FW)	24 (S) 48 (S) 96 (S)	2.8 1.7 .54
Stonefly *Claassenia sabulosa*	(FW)	24 (S) 48 (S) 96 (S)	3.2 .84 .76
Amphipod *Gammarus lacustris*	(FW)	24 (S) 96 (S)	6.4 3.0
Korean shrimp *Palaemon macrodactylus*	(SW)	96 (F)	.20
Sand shrimp *Crangon septemspinosa*	(SW)	96 (S)	1.7
Grass shrimp *Palaemonetes vulgaris*	(SW)	96 (S)	1.8
Hermit Crab *Pagurus longicarpus*	(SW)	96 (S)	12.0
Oysters *Crassostrea virginica*	(SW)	96 (F)	[1] 14.2
Pink shrimp *Penaeus duorarum*	(SW)	96 (F)	.037
Grass shrimp *Palaemonetes pugio*	(SW)	96 (F)	.63

[1] (EC50).

LEGEND: (S)=static bioassay; (F)=flow-through bioassay; (SW)=saltwater; (FW)=freshwater.

The acute toxicity of endrin to a wide variety of freshwater and marine (saltwater) fish is set forth below:

Organism	Duration (hours)	Type of bioassay	LC50 (ug/l)
Chinook salmon *Oncorhynchus tshawytscha*	96	(S)	1.2
Coho salmon *Oncorhynchus kisutch*	96	(S)	0.51
Coho salmon *Oncorhynchus kisutch*	96	(S)	0.27
Rainbow trout *Salmo gairdneri*	96	(S)	0.58
Rainbow trout *Salmo gairdneri*	96	(S)	0.90
Rainbow trout *Salmo gairdneri*	96	(U)	0.86
Bluntnose minnow *Pimephales notatus* (29.8 mm in length)	96	(U)	0.27
Bluntnose minnow *Pimephales notatus* (40.6 mm in length)	96	(U)	0.29
Bluntnose minnow *Pimephales notatus* (59.8 mm in length)	96	(U)	0.47
Fathead minnow *Pimephales promelas*	48	(F) (S)	0.57 0.77
Bluegill *Lepomis macrochirus*	96	(U)	0.7
Mosquitofish *Gambusia affinis*	96	(U)	0.5
Channel Catfish *Ictalurus punctatus*	48	(U)	1.0
Northern Puffer *Sphaeroides maculatus*	96	(S)	2.1
Mummichog *Fundulus heteroclitus* (42 mm in size)	96	(S)	0.6
Striped Killifish *Fundulus majalis* (40 mm in size)	96	(S)	0.3
American eel *Anguilla rostrata* (57 mm in size)	96	(S)	0.6
Threespine stickleback *Gasterosteus aculeatus*	96 (1)	(S)	0.44
Threespine stickleback *Gasterosteus aculeatus*	(2)	(S)	0.50
Chinook salmon (freshwater) *Oncorhynchus tshawytscha*	96	(F)	0.14
Chinook salmon (saltwater) *Oncorhynchus tshawytscha*	96	(F)	0.05
Sheepshead minnows *Cyprinodon variegatus*	96 [3] 38	(F) (F)	0.38 0.16
Sailfin mollie *Poecilia latipinna*	96	(F)	0.63

Organism	Duration (hours)	Type of bioassay	LC50 (ug/l)
Striped bass	96	(F)	0.094
Morone saxatilis			
Shiner perch	96	(F)	0.12
Cymatogaster aggregata		(S)	0.8
Dwarf perch	96	(F)	0.13
Micrometrus minimus		(S)	0.6
Spot	24	(F)	0.45
Leiostomus xanthurus			
Striped mullet	24	(F)	2.6
Mugil cephalus			
Menhaden	24	(F)	0.80
Brevoortia patronus			
Longnose killifish	24	(F)	0.23
Fundulus similis			
Sheepshead minnow	24	(F)	0.32
Cyprinodon variegatus			

[1] 5 parts per thousand salinity.

[2] 25 parts per thousand salinity.

[3] Days.

LEGEND: (S) = static bioassay; (F) = flow-through bioassay; (U) = undetermined whether static or flow-through bioassay.

As the above data show, static bioassays conducted on aquatic invertebrates resulted in 96-hour LC 50 values ranging from 0.25 µg/l to 12.0 µg/l; static bioassays conducted on fish yielded 96-hour LC 50 values ranging from 0.27 µg/l to 3.1 µg/l. Flow-through bioassays conducted on aquatic invertebrates yielded 96-hour LC 50 values ranging from 0.037 µg/l to 0.63 µg/l. Flaw-through bioassays on fish yielded 96-hour LC 50's ranging from 0.05 µg/l to 0.63 µg/l.

The 28-day LC 50 for sheepshead minnow fry, including exposure as embryos, was 0.16 µg/l. The 30-day TLm (LC 50) values for two species of stonefly, *Acroneuria pacifica* and *Pteronarcys californica*, were 0.035 µg/l and 1.2 µg/l respectively, in flow-through bioassays.

In entire life-cycle flow-through bioassay tests conducted on sheepshead minnow, the fish either died or exhibited other sublethal toxic effects such as early hatching, decreased growth, and decreased fertility of eggs, when exposed to 0.72 µg/l and 0.31 µg/l of endrin in the water. No chronic toxicity data from life-cycle bioassay tests are available for aquatic invertebrates .

The pink shrimp (*Penaeus duorarum*) was found to be the tested aquatic organism most sensitive to the acute effects of endrin, with a 96-hour LC 50 of 0.037 µg/l in a flow-through bioassay.

5. Endrin-associated fishkills have resulted in the death of hundreds of thousands of fish, some of which are of great economic importance and all of which are important links in the food chain. The magnitude of endrin-associated fish mortality is illustrated in the following table, which tabulates data for thirteen endrin-associated fishkill incidents:

Date	Estimated number of fish killed	Types of fish killed (percent)		Location (nearest town or country)
		Game	Nongame	
Sept. 4, 1974	64,526	2	98	Webbers Falls, Okla.
Aug. 18, 1974	3,538	96	4	Tuscaloosa, Ala.
Sept. 10, 1974	2,988	9	91	Lawrence, Ala.
Aug. 17, 18, 1970	858	19	81	Sheffield, Ala.
Aug. 8 through 14, 1974	54,233	3	97	Franklin, Tenn.
Jan. 25, 1974	(1)	100		Cana, Va.
Sept. 3, 1974	31	87	13	Tuscaloosa, Ala.
Sept. 12, 1974	13,592	60	40	Sawyersville, Ala.
Aug. 20, 1974	47	72	28	Greensboro-Hale, Ala.
Sept. 9, 1974	28,248	3	97	Decatur, Ala.
Sept. 15, 1974	4,216	28	72	Cullman, Ala.
Aug. 17, 1974	14,350	42	58	Hokes Bluff, Ala.
Aug. 4, 1974	29,747	9	91	Selma, Ala.

[1] Unknown.

The types of fish killed ranged from game fish, such as crappie and bluegill, to non-game fish important in the food chain, such as the mosquitofish.

The cause of the 1963 fishkill in the lower Mississippi River was shown to be due to endrin, whose discharge to the Mississippi River was traced to the Velsicol Chemical Corporation plant at Memphis, Tennessee.

6. Endrin is also toxic to other organisms and consumers of aquatic life, including humans. In one study, 95 percent of eleven species of predators (including fish, frogs, turtles and snakes) died when they were force-fed endrin-resistant mosquitofish containing endrin at 890 µg/kg. Another study, noting the absence of top predators such as bass and crappie as well as very large numbers of mosquitofish in an area contaminated by insecticides (including endrin), indicated that a bioaccumulation of insecticides in the food chain can result in population shifts.

When endrin was re-introduced in 1974 for cotton insect control in the Lower Mississippi River Valley, the population of brown pelicans (fish predators who would have received endrin by the way of the food chain) began to decline. Chemical analyses of the brains of dead birds revealed levels of endrin which could account for their deaths.

Birds fed single endrin doses in capsules had LD 50 values ranging from as low as 1.8 mg/kg for young pheasants to 2.0 to 5.0 mg/kg for pigeons and 5.6 mg/kg for mallards. Birds fed endrin daily in their food for 5 days at the stated concentrations resulted in LC 50 values ranging from 11 mg/kg (endrin in diet) for pheasant chicks, 15 mg/kg for bobwhite quail chicks and 21 mg/kg for mallard ducklings.

Oral LD 50 values for a variety of mammals are set forth below:

Organism	Test	Concentration (milligrams per kilogram)
White rat (male) (Sherman strain).	Oral LD50	17.8
White rat (female) (Sherman strain).	do	7.5
Rat (Carworth strain).	do	7.3-43
Guinea pig (female)	do	16
Guinea pig (male)	do	36
Rabbit	do	5-10
Dog (Beagle)	Oral LD50 (death within 6 weeks).	10
Monkey	Oral LD50	3

Endrin can cause convulsions or death in humans following consumption of contaminated foods, inhalation or sorption. Convulsions have been reported to begin at blood levels of 0.053 µg/ml. (However, there is rapid elimination of endrin from the blood.) The Food and Drug Administration has established an action level of 0.3 ppm (mg/kg) in the edible portion of fish and shellfish to protect human consumers from endrin poisoning.

7. There is some date available on the question of whether endrin is carcinogenic or teratogenic. Evaluation of the data is not complete. On July 27, 1976 the Agency issued a Notice of Rebuttable Presumption Against Registration of Pesticide Products Containing Endrin ("RPAR"). (41 F.R. 31316) Conflicting evidence as to carcinogenicity of endrin was summarized in the RPAR. A RPAR does not constitute a decision by the Administrator that a substance is in fact carcinogenic; it is simply a notice indicating that there is evidence to that effect and requesting comment and rebuttal.

At the time of issuance of the RPAR, the Agency was also aware of studies done by the National Cancer Institute ("NCI") with endrin and toxaphene on rats and mice. Dr. Guarraia's office first learned of these studies in January, 1976. The Agency was unable to take NCI's studies into consideration in formulating the proposed standards because NCI declined to make any information available to the Agency. Moreover, throughout the hearings NCI declined to testify as to the study. NCI's reason for declining to make information available or testify was that it had not completed its analysis of the study.

However, EDF obtained from NCI (under a Freedom of Information Act request) and delivered to EPA on July 21, 1976 computer printouts dated July 9, 1976, with each page stamped "INCOMPLETE-NOT VERIFIED", relating to the NCI studies of endrin on mice and rats.

At the hearing EDF presented the testimony of Dr. Melvin D. Reuber, a pathologist who was and is a consultant to the Agency. Dr. Reuber testified with respect to the FDA rat study mentioned in the RPAR that in his judgment this study demonstrated that endrin is carcinogenic in Osborne Mendel male and female rats.

With respect to the NCI rat study, Dr. Reuber testified that:

> In my opinion, there are serious shortcomings in the NCI endrin study on male and female Osborne Mendel rats which preclude any conclusion beyond the suggestion that endrin may be tumorigenic, particularly for the endocrine system. Additional analysis is needed of the tumors in the Uncertain—benign or malignant category, and of the reported liver lesions, as well as pooling of control rats, before any further conclusions can be drawn from this study. Nevertheless given the statistically significant incidence of malignant tumors observed in the same species in the FDA endrin study, I have concluded that endrin is carcinogenic in male and female Osborne Mendel rats.

With respect to the NCI mouse study, Dr. Reuber testified that there were increased incidences of tumors in males fed high dose levels, but that in his judgment further analysis of the data was necessary to determine whether endrin was tumorigenic in mice.

Thereafter, on October 12, 1976 Dr. Reuber testified that the NCI pages marked "INCOMPLETE-NOT VERIFIED" had been verified as of September 21, 1976. As of October 12, however, NCI had still not made a final judgment about the data and issued a final report on this study and it continued to decline to testify about it.

It cannot be overemphasized that to determine whether a substance is a carcinogen is not a simple matter; it requires careful interdisciplinary analysis and evaluation of the results of studies and their methodology. There is considerable disagreement in the scientific world as to the meaning and interpretation of data such as those available for endrin in this case. As important consequences flow from the determination that a substance is a carcinogen, the Agency has established procedures for making such determinations. Review of endrin under the Agency's Interim Administrative Procedures for Regulatory Decisions Involving Suspected Carcinogens ("Interim Policy"), 41 FR 21402 et seq., has not been completed.

It may be useful to review the procedures set forth in that document. The Interim Policy emphasizes that the decision-making process with respect to regulation of a carcinogen is a two-step process. First, a decision must be made as to whether a substance constitutes a cancer risk. Then, a determination must be made as to what regulatory action, if any, should be taken to reduce that risk.

For § 307(a) standards, an assessment as to the cancer risk would be made under Appendix I of the Interim Policy. The purpose of this assessment is to provide a judgment concerning the weight of evidence that an agent is a potential carcinogen and, if so, how great an impact it is likely to have on human health. Judgments as to the weight of evidence involve considerations of the quality and adequacy of the impact on public health at current and anticipated levels of exposure. The Interim Policy points out that the available techniques for assessing the magnitude of cancer risk to human populations on the basis of animal data are only very crude due to uncertainties in the extrapolation of dose-response data to very low dose levels and also because of differences in levels of susceptibility of animals and humans. Thus the Interim Policy requires that a range of estimates be given on the basis of several modes of extrapolation. Expert scientific judgments in the areas of toxicology, pathology, biometry, and epidemiology are required to resolve uncertainties about the quality, adequacy and interpretation of the data on which the risk assessment is based.

The estimates of cancer risk must include an analysis of the possible modes of exposure of humans to the substance. The decision must be subjected not only to internal and inter-agency review, but to review by the Cancer Assessment Group ("CAG") and in appropriate circumstances to external scientific review. The CAG is an advisory body of senior Agency scientists with a liaison member from the Department of Health, Education, and Welfare, which consults government and private sector experts as needed.

In the Denial of Interlocutory Appeal issued earlier in this proceeding, I ruled that in order to support a rule under § 307(a) I must propose the rule on the basis of "substantial evidence". I determined that the evidence as to carcinogenicity and teratogenicity cited by EDF had not been sufficiently assessed and analyzed to rise to the qualitative level upon which a § 307(a) standard can be based. As discussed in that Denial, the mere fact that data support a RPAR does not make them adequate to support a § 307(a) proposal. I felt that I was faced with a choice between moving toward promulgation, in accordance with a court order and after a three-year delay, of responsible, well-developed and defensible standards under § 307(a) of the Act (namely those proposed) or to once again suspend the proposed standards for endrin pending further development of the evidence suggesting carcinogenicity and teratogenicity. I determined that it was important for the protection of the aquatic environment to proceed expeditiously toward issuing the proposed stringent standards for endrin.

The procedures established in the Interim Policy have still not been completed for endrin. Moreover the Agency has still not received from NCI its final report on its mouse and rat studies with endrin. While recognizing the qualifications of Dr. Reuber, I cannot delegate my decision-making authority to him, and believe that it would be irresponsible to make a determination as to the carcinogenicity of endrin without further review and evaluation of all available data, including the report of NCI when available.

Even if it were determined that endrin was a carcinogen, a decision that a cancer risk may exist does not mean that the Agency will automatically take regulatory action. While it is true that there appears to be no "no effect" level for carcinogens and that therefore human exposure should be minimized, the Interim Policy points out that Congress has not in all cases required complete elimination of risk, because in many areas risks cannot be eliminated without unacceptable social and economic consequences. Thus, while the Delaney Clause of the Pure Food and Drug Act imposes an absolute ban on any food additive that shows evidence of tumorigenic activity for humans or animals, the Federal Insecticide, Fungicide and Rodenticide Act requires a balancing of risks and benefits as the basis for final regulatory action.

It is the position of the Agency that § 307(a) does not require the zero discharge of every substance for which a cancer risk is found. Section 307(a) allows a balancing test to be used, for it directs the Administrator to take into account the importance of the organisms affected when setting an ample margin of safety. Where humans are not likely to be significantly affected by a discharge, so that human exposure is "minimized", the

Administrator may in his discretion set a standard of less than zero discharge.

In the case at hand, with the application of the proposed standard the level of exposure to humans will be slight, but again it must be emphasized that the analysis of the impact of discharges on human health required by the Interim Policy has not been completed for either endrin or toxaphene. No evidence in this regard was introduced in these hearings. The proposed standards must be reviewed and if appropriate revised at least every three years (§ 307(a)(3)). Thus, if after review of all data endrin is deemed to be a carcinogen and if it is determined that the proposed standard is inadequate for the protection of human health, it can be revised promptly.

Accordingly, the Agency believes that no modification of the standard is warranted at this time.

8. Endrin may be transported to water bodies by direct discharges from manufacturing plant effluent pipes, by drifting air sprays applied to agricultural fields, and by runoff from treated soils. In a 1967 study of Louisiana watersheds, it was found that endrin residues in water appeared to parallel land application of endrin. Residues as high as 870 μg/kg were reported in gizzard shad, in the Chevreuil basin.

Where volatilization and photodecomposition opportunities were minimal, endrin was shown to persist in soil for as long as fourteen years and in water for as long as nine years. On the other hand, it was reported that 10–80 percent of endrin decomposed on air dried soil at 25° C in 12 hours, primarily due to transformation of endrin to the ketone and aldehyde forms. Ultraviolet light also degrades endrin to a ketone. Various soil microorganisms can degrade endrin, although it has been suggested that high rates of application might destroy soil organisms which might otherwise decompose endrin. Studies of soils have consistently shown low or absent endin residues since the mid-1960's.

A single application of 3 to 6 pounds of endrin per acre produced residues in potatoes grown in the soil during the first two years. About 80 percent of the endrin residue in Irish and sweet potatoes was found to remain after twelve weeks in storage.

9. Plants, fish or animals may bioaccumulate endrin. Transfer of endrin from water to organism or sediment and from organism to organism has been shown to occur. Endrin-resistant strains of food organisms have been shown capable of transferring lethal doses of endrin to birds. Bioaccumulation levels in fish found in nature have been reported as high as 12,000 μg/kg of dry body weight.

One study found that while lethal concentrations of endrin in a pond became undetectable in the water within one month and in the mud within two months, fish kept in cages in the pond after no more of the pesticide was detected in the water column accumulated detectable levels of endrin within four days. Whether the endrin came from the water, mud or food organisms was unknown.

When a single endrin-resistant mosquito fish was exposed to a concentration of 1,000 μg/l of endrin and then released into tap water with five susceptible fish, all except the resistant fish died within forty hours.

Four algal species have been shown to concentrate endrin about 170-fold following a seven-day exposure to 1 mg/l of endrin.

Oysters exposed to endrin at 1 μg/l for 10 days concentrated endrin about 1,000 times. The uptake of pesticides by oysters in a Louisiana estuary was found to be dependent upon temperature (low temperature yielded low uptake) and rainfall (heavy rainfall increased uptake due to sediment input and roiling).

Spot exposed to 0.05 μg/l of endrin for eight months accumulated whole body residues of 67 μg/g. A second test of five months duration produced residues of 78 μg/g, a concentration factor of 1560. In 96-hour experiments performed on the oyster, the pink shrimp, the grass shrimp, the sheepshead minnow and the sailfin molly, it was found that, while the oysters and shrimp bioaccumulated endrin to a lesser extent than the fish, tissue concentrations of endrin in the test species generally ranged from 200 to 4,500 times the measured concentration in exposure water. Concentrations in sheepshead minnow fry after 28 days were 3,300 to 4,800 times the concentration in water. Fathead minnow exposed to 0.015 μg/l of endrin accumulated concentrations 10,000 times greater than the water. Residue accumulation up to 10,000-fold was found in flagfish exposed for 60 days to concentrations of 0.05 to 0.3 μg/l.

The concentration of endrin in adult medaka tissue has been found to be 17,000 to 26,000 times the water concentration. Since this degree of accumulation was based solely on observations of uptake directly from the water, it did not allow for accumulation via the food chain. Accumulation rates could be higher in other, untested fish species.

10. On the other hand, endrin has been found to be eliminated quickly after termination of exposure. Residues in channel catfish were reduced 95 percent within 13 days after addition of endrin to the water was stopped. Residues of 78.0 ppb were reduced below detectable levels in marine spot within 13 days. Residues in steers with body fat residues of 900 μg/kg declined to 300 μg/kg after six weeks. Ninety percent of endrin given intravenously in rats was eliminated, 75 percent in the first day.

11. In order to protect aquatic organisms (including the food chain supporting them) and consumers of aquatic life (including humans) from the effects of a pollutant, it is necessary to set a maximum level of that pollutant in the water. Such a maximum level is referred to as an ambient water criterion. Ideally such a criterion would be based upon chronic toxicity data showing the "no effect" level for the most sensitive organism to be protected. However, often only acute toxicity data is available. In such cases, the use of "application factors" has been recommended. The "application factor" is applied against the acute toxicity value (normally the 96-hour LC/50) of a particular substance for the most sensitive species to be protected. The resultant figure is the ambient water criterion for that substance, which is intended to be a concentration level which will protect all species from chronic toxicity. The National Academy of Science has recommended use of an application factor of 0.01 for organochlorine pesticides, except where there is an experimentally-derived application factor (in which case such factor should be used).

It has been suggested that experimentally-derived application factors be obtained by dividing the no-effect level by the 96-hour LC 50. Using this method one researcher has found an application factor for endrin of 0.3, using the sheepshead minnow. Another researcher has found an application factor for endrin of 0.26 to 0.35, using the freshwater flagfish. No experimentally-derived application factor has been established for the pink shrimp (the most sensitive species for which toxicity data are available) or any other invertebrate.

12. In developing the proposed ambient water criterion, the Agency used an application factor of 0.1 instead of the application factor of 0.01 recommended by the National Academy of Sciences, because the NAS factor appeared to be overprotective in light of the experimentally-derived factors of 0.3. The 0.1 application factor was applied against the 96-hour LC 50 for the pink shrimp (0.037 μg/l) to produce the proposed ambient water criterion of 0.004 μg/l. Other fresh and salt water organisms have 96-hour LC 50 values in the vicinity of 0.037 μg/l, e.g., the chinook salmon (0.05 μg/l in salt water and 0.14 μg/l in freshwater), the striped bass (0.094 μg/l) and the dwarf perch (0.13 μg/l).

Dr. Guarraia testified that in deriving the proposed ambient water criterion for endrin of 0.004 μg/l, he considered the experimentally-derived application factor, the fact that endrin has been shown to bioaccumulate in fish flesh by factors as high as 26,000, the protection of consumers (including man) and of aquatic life, and the toxicity of similar levels of endrin to a variety of other fish. He also testified that essentially the same criterion was recommended by the EPA's laboratories in Duluth, Minnesota and Gulf Breeze, Florida. Velsicol presented testimony of its witness, Dr. Kenneth Macek, an aquatic toxicologist, that the 0.3 application factor should be used and furthermore that separate criteria should be established for freshwater and marine organisms. He testified that it was valid to use the 0.3 factor (derived from studies of fish) as an application factor for invertebrates. Using the 0.3 factor and the lowest reported 96-hour LC 50's (the pink shrimp, 0.037μg/l and the chinook salmon, 0.14 μg/l) would yield an ambient marine criterion of 0.01 and an ambient freshwater criterion of 0.04. Dr. Macek testified that these criteria would be adequate to protect freshwater and marine aquatic life, respectively, with an ample margin of safety.

It is true that the NAS recommends use of an experimentally-derived factor when acute and chronic data are available. However, experimentally-derived application factors, like general application factors, can only estimate the no-effect level for species other than those from which the application factor is derived. When this estimate appears to be inadequate it should not be blindly accepted.

The experimental data indicated at least in one instance that a standard based on the experimentally-derived application factor would not in fact provide for the protection of aquatic life. A study of the stonefly (a freshwater invertebrate) showed that 50 percent of the test population was killed when exposed for a 30-day period to a concentration of 0.035 μg/l. Thus the 0.04 ambient freshwater criterion proposed by Dr. Macek would not protect the stonefly.

Velsicol points out that the stonefly in question is found only in cold mountain streams and not in the Mississippi where it could be affected by Velsicol's discharge. Though true, this is irrelevant. The importance of the stonefly data is that it demonstrates that the 0.3 application factor does not correctly estimate the no-effect level for all fresh and saltwater organisms. Although the stonefly may not be found in the Mississippi, other organisms as sensitive as the stonefly may well be found there. The most sensitive and important organisms may easily have escaped testing, since only a small percentage of the total number of aquatic species can be subjected to toxicological testing and since laboratory conditions dictate the use of organisms suited to captivity. The stonefly data indicates that the 0.3 application factor would not "provide an ample margin of safety." The 0.1 factor used by the Agency does provide an ample margin of safety.

Moreover, the 0.3 application factor has been derived for fish and it is not clear that it can validly be applied to invertebrates. Dr. Donald Mount, Director of the EPA Research Laboratory—Duluth, is one of the leading experts on bioassay techniques and methods of determining water quality criteria. As a witness for the Agency, he expressed some qualifications with respect to the transfer of application factors derived from chronic bioassays with fish to invertebrates, in the absence of chronic data for the latter. While acknowledging that similarities were observed between experimentally-derived application factors for fish and for invertebrates, Dr. Mount clearly emphasized the limitations of such an application, saying it was his opinion that the validity of the application factor for various species of fish is better than it is for one determined for fish but applied to invertebrates.

David J. Hensen, a Research Aquatic Biologist at the U.S. Environmental Research Laboratory in Gulf Breeze, Florida, testified that the application factor of 0.1 recommended in the EPA Criteria Document was more appropriate than the 0.3 experimentally-derived application factor to assure adequate protection of aquatic organisms and their consumers because the pink shrimp is an invertebrate with a very high commercial value. It is one of the principal species of shrimp marketed for human consumption. Pink shrimp collected from the South Atlantic and Gulf states accounted for nearly 44 percent ($208.6 million) of the total value of the U.S. shellfish landings in 1975. The pink shrimp is also important as a link in the food chain, since it is eaten by various fish species such as the speckled trout, the white trout, the croaker and the drum.

Accordingly, the record does not establish by a preponderance of the evidence that the proposed ambient water criterion should be modified.

13. The mass emission standard as proposed was based on a 6 million pound production rate and a wastewater flow stream of 300 gallons per minute (gpm). The evidence showed that the total wastewater flow volume from Velsicol's endrin manufacturing plant, including both contaminated and uncontaminated streams, is 259 gpm, based upon evidence presented by Velsicol, and that production is approximately 3 million pounds.

As stated in the preamble of the June 10 proposal, the purpose of the mass emission standards is to prevent a manufacturer from utilizing dilution instead of treatment or in-process change to achieve compliance with the concentration standard, rather than to impose an additional limitation more stringent than the concentration standard.

If the calculation used to derive the proposed mass emission standards were recomputed using the low range of the endrin production volume (3 million pounds per year) and the total wastewater volume from the endrin manufacturing plant (including both contaminated and uncontaminated streams of 259 gpm), a somewhat more relaxed mass emission standard would result, namely .0006 kg/kkg for existing sources, and .00004 kg/kkg for new sources.[1]

Although Velsicol offered evidence that its total discharge volume averages approximately 2,269 gallons per minute, as discussed below, the evidence discloses that this includes not only the discharge from the endrin plant and the heptachlor plant, but also other discharges which need not be treated with the contaminated streams.

Evidence was introduced by Velsicol indicating that even when their endrin operation is shut down, there is residual endrin in the system, including the pipes, which results in a positive discharge of endrin. When the endrin plant is shut down, there will be no production level on which a mass emission as a percent of production could be calculated. Under these circumstances, it would be reasonable to require that, during any calendar month for which the endrin manufacturing plan is shut down, the discharger must comply with a mass emission standard under which the production volume used is the average monthly production level for the most recent 360 days of operation of the endrin plan (which approximates an operating year).

In addition there was evidence that there is stormwater flow of 251 gpm which may be subject to the proposed standard. Techniques such as roofing, diking or use of evaporation ponds would obviate the need for treatment of stormwater flows and would be less expensive than treatment. Consequently the Agency does not envision that the mass emission limitation will be applied to stormwater flows.

14. In order to identify and evaluate the wastewater technologies applicable to dischargers from plants engaged in the manufacture or formulation of the pesticides aldrin/dieldrin, endrin, DDT (DDD, DDE) and toxaphene, EPA contracted for the services of the Midwest Research Institute (MRI) of Kansas City, Missouri. MRI is a not-for-profit corporation which is engaged in a wide range of research projects involving the physical, biological, engineering, economic and management sciences. It has performed extensive research on the study of wastewater effluent and wastewater treatment technology, and the costs thereof. The project officer at MRI in charge of preparation of reports for each of the four pesticides at issue here was Dr. Alfred F. Meiners.

Dr. Meiners, who has a Ph.D. in organic chemistry, is a Principal Chemist in the Physical Sciences Division of MRI. During approximately the past ten years, he has devoted extensive time to the study of wastewater containing pesticides and other organic chemicals, and the technologies available to treat those wastewaters for the purpose of removing the organic constituents.

The objectives of the studies which MRI performed for EPA were to examine the wastewater management practices currently employed in the manufacture and formulation of the specified pesticides, to examine the state of the art of potential wastewater treatment processes that might be applicable to the

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[1] This calculation is performed as follows:

Daily flow of 259 gpm×1440 minutes per day=.373 million gallons per day (MGD).

Maximum permissible amount of endrin in discharge from endrin plant is .373 MGD × concentration standards (1.5 μg/1) × conversion factor from gallons to pounds (8.33) =.00466 lbs. per day.

3 million lbs. per year divided by 365 days per year=8.22 thousand lbs. production of endrin per day (if weekend days were excluded the figure would be higher, imposing a slightly more stringent limitation.)

Maximum permissible mass emission is .00466 lbs. per day divided by 8.22 lbs. endrin produced per day=.0006 lbs. per thousand lbs., or kg/kkg.

Since the new source concentration standard is 0.1 μg/l, the new source mass emission standard is .00006×0.1/1.5=.00004 kg/kkg.

industry, and to select those processes that would be applicable to EPA control requirements for toxic pollutants. The task included, in addition, the development of cost data relating to existing and proposed wastewater treatment methods. The results of the MRI studies are four reports (one for the manufacturing segment of each pesticide) and the first four sections of a study of the formulator segment of the industry, entitled "Wastewater Treatment Technology Documentation for Aldrin/Dieldrin, DDT, Endrin, and Toxaphene Formulation", prepared by the EPA Office of Water Planning and Standards.

15. In preparation of "Wastewater Treatment Technology Documentation for Endrin Manufacture", MRI considered a total of ten technologies. The four technologies selected for discussion in the report (resin adsorption; reductive degradation; resin adsorption and reductive degradation in series; and activated carbon adsorption) were those believed by MRI to be the most promising in terms of feasibility and likelihood of achieving very low concentration levels of the pesticide in industrial effluents. No candidate technology was rejected on the basis of cost only.

16. Velsicol is currently the sole manufacturer of endrin in the United States and all of its production of endrin is made at its plant in Memphis. This plant occupies a 68-acre site. Velsicol also formulates endrin, but under the regulations is regarded as an endrin manufacturer. (§ 129.102(a)).

17. At the time MRI prepared its report, it believed that Velsicol had two direct discharges (001 and 002) into a stream known as Cypress Creek and a third discharge (003) to the Memphis Municipal Sewage System, all contaminated to some degree with endrin and yielding a total wastewater discharge of approximately 3,514 gallons per minute (gpm), containing an average 2.5 pounds of endrin per day. Production information indicated between three and six million pounds per year of endrin. It was believed that Velsicol expected to reduce soon the amount of contaminated water to 150 gpm or less. The Memphis Municipal Sewage System is not now a "publicly owned treatment works" meeting the requirements of § 301(b)(1)(B) but is expected to become one in February, 1977, or shortly thereafter. For purposes of its cost estimates, MRI used two alternative model systems involving endrin-contaminated flows of 300 and 600 gpm respectively, and used the higher production figure of six million pounds of endrin per year.

18. Velsicol's outfalls 001 and 002 have zero discharge except for endrin-contaminated runoff during rainfall which, during four months of 1976, varier from .008 to 0.145 pounds/month (001) and 0.666 to 1.396 pounds per month (002). Velsicol indicates that in 1976 the stormwater flow (rainy days only) averaged 40 gpm for outfall 001 and 66 gpm for outfall 002. Stormwater from areas immediately surrounding the endrin and heptachlor manufacturing facility is collected and channeled to the plant's process waste treatment system.

Outfall 003 contains an average daily discharge of 2269 gpm with all production units on line at full production rate, with an average of less than 30 μg/l of endrin and usually in the range of 10–15 μg/l, resulting in an average discharge of 0.25 lb/day of endrin. Velsicol within the past year constructed a separate sewage system so as to segregate its endrin and heptachlor process wasteflows. The total discharge from the endrin plant is 259 gpm, and the total discharge from the heptachlor plant is 42 gpm, or a combined flow of 301 gpm. Of this, only 66–100 gpm is actually contaminated with endrin and heptachlor.

The entire 2269 gpm at outfall 003 is contaminated with endrin because of residual contamination of hundreds of yards of the old sewage system now used for endrin-free waters (cooling and noncontact waters). Despite several cleaning with ultra-high pressure water jets, the average effluent discharge was 15–20 μg/l during the four months of 1976 when no endrin was produced. The treated and untreated waste streams are joined together in a common neutralization basin and thence discharged via outfall 003.

19. One of the principal issues in this proceeding is whether and to what extent questions of technology and economic impact are to be taken into account in setting standards under § 307(a). A related question is whether the standards must be technologically achievable within one year. Velsicol argues that toxic pollutant effluent standards under § 307(a) must meet the requirements of § 301(b) and § 304(b). In Velsicol's view its position is adopted in the consent agreement in *NRDC* v. *Train*, Civ. No. 75–172, 8 E.R.C. 2120 (D.D.C. June 9, 1976). Hercules also argues that the Administrator must consider questions of technological and economic feasibility.

The short answer to Velsicol's argument is that nowhere in the statute or the legislative history is there any suggestion that toxic pollutant standards under § 307(a) must meet the requirements of §§ 301(b) and 304(b). The requirements of §§ 302, 307 and 318 are plainly in addition to those set forth in § 301(a), and § 301(a) so indicates:

> Except in compliance with this section [§ 301] and sections 302, 306, 307, 318, 402, and 404 of this Act, the discharge of any pollutant by any person shall be unlawful.

Congress could not have intended the requirements of §§ 301(b) and 304(b) to apply generally to Title III, because the requirements of those sections conflict with other parts of Title III. Section 301 (b) sets forth the basic requirements of the Act with respect to waste treatment for point sources, namely that the effluent limitations for point sources must require the application of "best practicable control technology currently available" ("BPCTCA") by 1977 (unless more stringent standards are necessary to meet applicable water quality standards or other requirements) and "best available technology economically achievable" ("BATEA") by 1983. Factors to be taken into account in determining BPCTCA and BATEA are specified in § 304(b). The remaining parts of Title III (insofar as they deal with effluent standards or limitations) are designed to achieve specific goals and for that purpose impose levels of control more stringent, and sometimes on different timetables, than those required under §§ 301(b) and 304(b). Thus, § 302 requires effluent limitations more stringent than those achieved by the application of BATEA if necessary to obtain or maintain water quality. Section 306 requires new sources to meet a special standard, namely "best available demonstrated control technology, processes, operating methods or other alternatives"; standards under this section are effective upon promulgation without reference to 1977 and 1983. Section 307(a) requires the Administrator to promulgate effluent standards for individual toxic pollutants at levels which permit ample margins of safety; these standards take effect within no more than one year of promulgation, again without reference to the 1977–1983 timetable of § 301.

Velsicol's confusion with regard to the relationship of §§ 301, 304 and 307 stems from the fact that toxic substances can be regulated under §§ 301(b) and 304(b) as well as § 307(a). The BPCTCA and BATEA control technologies remove certain toxic substances to some degree, and since toxic substances are "pollutants" the Agency believes that their discharges can be controlled under §§ 301 and 304(b) through appropriate provisions in NPDES permits under § 402.

However, § 301(b) technology is not necessarily sufficient to adequately control toxic substances. (For instance, BPCTCA, which is generally equivalent to secondary treatment, may remove more than 90% of BOD and TSS but only a small fraction of heavy metals.) For this reason Congress gave the Agency additional power to control toxic substances under § 307(a). Thus, when the settlement agreement in *NRDC* v. *Train* provided in clause (A)(1) that:

> * * * the Administrator shall develop and promulgate regulations which shall establish and require achievement at the earliest possible time, but in no case later than June 30, 1983, of effluent limitations and guidelines for classes and categories of point sources which shall require application of the best available technology economically achievable for such category or class, which will result in reasonable further progress toward the national goal of eliminating the discharges of all pollutants, *including toxic pollutants* * * * (Emphasis added.)

the reference to control of toxic substances was a reference to control under §§ 301(b) and 304(b). Control of toxic substances under § 307(a) was separately provided for in clause (K)(14), which states:

> The Administrator shall propose standards pursuant to Section 307(a) of the Act for aldrin/dieldrin, DDT (DDD, DDE), endrin and toxaphene on or before May 31, 1976; and for benzidine on or before June 22, 1976; and for polychlorinated biphenyls (PCB's) on or before July 14, 1976. Not later than six months following proposal of each set of such standards, the Administrator shall promulgate final standards for each of such pollutants.

Although it is clear that the requirements of § 301(b) were not superimposed on § 307(a), whether Congress intended the Administrator to consider technology and economics at all in setting § 307(a) standards is a more difficult question. This question was addressed extensively in the preamble to the June 10 proposal (41 F.R. 23578), and the conclusion was reached that the Administrator has the authority:

> to give at least some consideration to the economic impact, including the availability of control technology, in setting standards under section 307(a), even though such factors must always be given less weight than the environmental and public health factors for which the standards must, under section 307(a)(4), provide an ample margin of safety.

As discussed below, I have given consideration to the economic impact, including the availability of control technology, and have determined that the standards can be met within one year without significant economic impact.

The Natural Resources Defense Council ("NRDC") argues that consideration of economic costs and technology is not lawful in setting standards under § 307(a). NRDC argues that the Administrator's position should be reconsidered in light of *Union Electric* v. *EPA*, 8 E.R.C. 2143 (C. Ct. 1976), which apparently overruled *Buckeye Power, Inc.* v. *EPA*, 481 F. 2d 162 (6th Cir. 1973), a case which was cited in the preamble.

Union Electric arose under the Clean Air Act and posed the question whether an operator of a regulated emission source could raise claims of economic and technological infeasibility in a petition for review of an EPA-approved State implementation plan ("SIP") filed after the 30-day appeal period. This in turn depended on whether the Administrator could consider such claims in approving or rejecting a SIP. The Court held that the Administrator must approve a plan that provides for the attainment of primary ambient standards within 3 years even if attainment does not appear feasible. In so holding, the Court relied on the fact that Congress had rejected a House proposal to require attainment of primary standards only "within a reasonable time", in favor of a Senate version flatly requiring that primary standards be met "within three years". Furthermore, the Court pointed to the Senate legislative history, which quite explicitly said that existing sources should either meet the standards of the law or be closed down.

The Court also held that economic and technological infeasibility could not be considered by the Agency in approving plans with respect to secondary ambient air standards. The reason for this holding was *not* that the Clean Air Act prohibited consideration of such factors in formulating plans to attain secondary standards. Rather, the Court reasoned that States can if they wish adopt plans more stringent than required by Federal law and hence by implication may adopt plans for the attainment of secondary standards which do not consider economic and technical feasibility. That being the case, the Agency may not disapprove a State's plan for reasons of economic or technical infeasibility.

Though the Agency was thus held to be precluded from considering economic and technological feasibility at the time of approval of a plan, nevertheless the Court discussed in great length the various ways that economic and technological infeasibility could be taken into consideration by States in designing or revising their SIP's or in requesting extensions of time for sources under § 110(e) and § 110(f); also, the Court stated that the Agency could take economic and technological infeasibility into consideration in fashioning appropriate compliance orders under § 113(a)(4) of the Act.

There are several reasons why the holding in the Union Electric case does not require modification of the position adopted in the June 10 proposal:

First, the Administrator's duties under § 110 of the Clean Air Act are ministerial, whereas under § 307(a) they require considerable exercise of discretion. That is, under § 110, if the Administrator determines that the eight criteria necessary for approval of a SIP have been met, the statute makes his approval mandatory. Under § 307(a), by contrast, the Administrator must "take into account" various factors such as the nature of the toxic pollutant and the importance of the organisms affected; he must determine the categories of sources to which the standard will apply; and he must make a determination as to whether the standard provides an ample margin of safety. Thus making a judgment as to the proper toxic pollutant effluent standard under § 307(a) requires the Administrator to exercise substantial discretion.

Second, the Court noted that in fact there are a number of points in the development and implementation of a SIP where allowances for claims of technological or economic hardship could be considered. The State in drafting the SIP is free to take economic or technological factors into consideration. Under § 110(a)(3)(A), the State could grant a variance based, among other things, upon consideration of economic and technological feasibility. The Governor of a State may request postponement of the compliance time on grounds of technological or economic impossibility. As the Court stated in arriving at its conclusion:

> In short, the (Clean Air Act) Amendments offer ample opportunity for consideration of claims of technological or economic infeasibility. 8 E.R.C. at 2151.

In contrast, under the Federal Water Pollution Control Act there are no mechanisms by which questions of technological and economic feasibility with respect to the setting of toxic pollutant effluent standards can be taken into account, except through the standard-setting process of § 307(a).

Third, the legislative history of § 110 of the Clean Air Act states in so many words that existing sources should either meet the standard or be closed down. The legislative history of section 307(a), on the other hand, simply indicates that toxic pollutant effluent standards are not to be based solely on questions of economic and technological feasibility. (H. Rept. No. 92-911, 92nd Congress., 2d Sess., at 112-113 (1972)).

Fourth, the nature of the standards is somewhat different. Whereas air quality that does not meet primary air standards causes a direct and immediate impact on human health, discharges of toxic substances may have their primary impact on aquatic systems, with only a secondary impact on humans. Finally, the Union Electric case involved a challenge by a private party to an administrative interpretation of the Clean Air Act. Applying a general principal of administrative law, the Court gave deference to the administrative interpretation of the Clean Air Act (at p. 2146); in Union Electric the administrative interpretation precluded consideration of technological and economic consideration.

NRDC also refers to § 112 of the Clean Air Act, which is the section regulating hazardous air pollutants, for support of its proposition that economics and technology are not relevant to § 307(a) standard setting. Like § 307(a), § 112 contains no express statutory authorization to consider economics and technology. Nevertheless, the Agency has given limited consideration to costs and technology in issuing its national emission standards for vinyl chloride under that section (41 FR 46560). It would be anomalous and inconsistent not to consider these factors under § 307(a) when they have been considered under the comparable § 112.

Consistent with this approach is *Essex Chemical Corporation* v. *Ruckelshaus*, 486 F. 2d 427 (D.C. Cir. 1973). Following *Portland Cement Assoc.* v. *Ruckelshaus*, 486 F. 2d 375 (D.C. Cir. 1973) the Court held in Essex Chemical that in setting national standards of performance for new stationary sources under § 111, the Administrator has not only the power but the duty to consider possible counterproductive environmental effects of its standards despite the absence of any express provision in the statute to do so. This type of consideration would appear implicit as a matter of reasoned rulemaking.

In the present situation, limited consideration of economics and technology gives the Agency some idea of the likely impact of its standards. It also can afford the Administrator some guidance in deciding where on the spectrum of "ample margin of safety" it would be reasonable and prudent to set the standard. (See 41 FR 23580.)

Thus, for example, the Administrator has set more stringent requirements for new sources than for existing sources. The rationale for this is set forth in the June 10 proposal:

> Setting an "end-of-the-pipe" effluent standard at a level which is substantially less stringent than the chronic criterion recognizes the inherent safety factors built into the latter number, which is derived from direct, sustained exposure of the more sensitive species with no dilution or dispersion allowance. (Clearly) as one backs away from that very stringent number the amplitude of the margin of safety is decreased. Yet the statutory "ample margin" concept is an elastic one which, like the importance of the organism, allows for considerable exercise of judgment by the Administrator in setting the standards. In any case where a discharge is allowed, on the spectrum ranging from certain safety (a prohibition) to that uncertain point where harmful effects are caused and safety ends, a logical break point is struck where the very best that control technology can do is required. Setting a standard at this point, coupled with the "tightening" variance, achieves the purpose of the Act without inflicting unreasonable and unjustifiable economic and social costs. (41 FR 23580)

Hercules and Velsicol argue that any § 307(a) standard must be one that can be achieved within the one-year time limit set forth in § 307(a)(b). They argue that none of the technologies discussed can be installed within one year or at least cannot be installed so as to consistently achieve compliance with the statute within one year.

The one-year timetable of § 307(a) may prove to be unrealistically short for control of some discharges. However, in view of the very serious light in which Congress regarded discharges of toxic substances (as evidenced by the short timetable) it is absurd to interpret § 307(a) as requiring referral of standards when technology is available, but cannot be installed or made fully operational within one year. In any event, the question of whether a standard may be imposed where technology cannot be installed within the statutory timetable need not be reached in this case, because the record demonstrates that technology is available and can be installed within one year. Admittedly problems may be expected in the implementation of any of the available technologies. The fact that the technology may not be functioning perfectly at the end of the one-year timetable is not sufficient reason for deferring the adoption of the standard, but may perhaps be taken into consideration by the courts should any citizens' suits or enforcement actions be commenced against dischargers unable to bring their plants into compliance on time.

20. The resin adsorption system developed by Rohm and Haas Company utilizes a synthetic, polymeric adsorbent known as Amberlite XAD-4 resin to remove pesticides from the wastewater. This resin has a high porosity, a high surface area, and an inert, hydrophobic surface. The adsorbent is regenerated with an organic solvent, and the adsorbed pesticides are recovered in a concentrated form. A pilot plant was scheduled for installation in November, 1976 at the Memphis plant of Velsicol under a grant project funded by EPA.

The MRI report stated that the process has the potential of reducing the effluent concentration down to 1.4 ppb. The manufacturer of resin adsorption systems, Rohm and Haas Company, indicated that such a system can be installed in 42-62 weeks. Because of the experience with the pilot plant at Velsicol it is possible that the system could be installed within one year.

Velsicol's Technical Superintendent, Daniel Marks, testified that although in the laboratory resin adsorption has occasionally achieved endrin removal levels of 0.5 to 0.1 µg/l (one run of tests averaged 1.36 µg/l), nevertheless it had not shown the capability of meeting either the proposed 1.5 ppb standard over an extended period of time or the proposed maximum effluent limitation standard of 7.5 ppb. (This was contrary to his earlier conclusion, in a report describing dynamic column studies, that the XAD resin would achieve reduction to levels near or below 1 ppb.) He said that actual pilot plant data were needed to assess the capacity of resin adsorption technology to reduce endrin content to 1.5 ppb on even a pilot scale basis. However, he also stated that the resin adsorption technology, though not available today in the form of an operational unit that will perform to those levels, nevertheless is a technology which has great potential to be developed in the future to such a state.

In essence, Velsicol's view is that the Agency may not adopt a § 307(a) standard unless technology to consistently achieve that standard has been demonstrated on a full-scale basis using actual wastewater, or at least on a pilot scale basis. I realize that when a standard is promulgated without such a demonstration, there is some chance, however remote, that consistent attainment of the standard will prove difficult or impossible, or that technical problems will take more time to work out than originally envisaged. However, as discussed above, Congress viewed the discharge of toxic substances as a very serious matter, and gave the Agency limited latitude to take into consideration technological feasibility. Under the circumstances I believe that the Congressional intent is most effectively carried out if the Agency establishes toxic pollutant effluent standards on the basis of reasonable expectations as to technological feasibility, and difficulties in attainment of the standard are dealt with and taken account of in the Agency's own enforcement policy and by the courts in enforcement proceedings, if appropriate under all the circumstances. (For instance the nature of the pollutant being discharged and the good faith, or lack of it, of the discharger would be factors to be considered.) This will carry out Congress' intent that toxic pollutant effluent standards be implemented at the earliest possible date, will result in reductions of toxic pollutant discharges even if technological difficulties arise, and will permit dischargers to make their case on the basis of actual as opposed to possible technological difficulties encountered.

21. The reductive degradation process consists of a copper-catalyzed reduction of the pesticide in water by iron. The pesticide-containing wastewater is passed through a packed column with the reductant suitably diluted with inert particles to obtain good flow properties.

Extensive laboratory work with this system has been done by Envirogenics Systems Company ("Envirogenics") of California, and a pilot plant based upon this technology and designed for 100 gpm has been operating at the Velsicol Memphis plant since May 1, 1976. This plant was constructed and installed by Envirogenics as a subcontractor to Velsicol under an EPA grant.

The MRI report stated that the reductive degradation process has the potential of reducing the effluent concentration to 1.0 ppb. This was confirmed by Dr. Keith H. Sweeny. Dr. Sweeny, who has a Ph.D. in physical chemistry, has been employed by Envirogenics and its predecessor for 25 years and holds the position of Manager, Wastewater Treatment Research. He is co-inventor of six patents relating to various aspects of the reductive degredation technology. He has been extensively engaged for seven years in studies to reduce or eliminate pollutants from industrial wastewater, including research into methods to degrade pesticides.

Dr. Sweeney is program manager of the EPA-Velsicol pesticide degradation demonstration grant program. He testified concerning the nature of the reductive degradation process, the results which can be achieved in removing endrin from wastewaters, and the costs of such a system. He described the extensive laboratory work which he has done on the process at Envirogenics. He said, on the basis of his laboratory studies, that this technology could degrade endrin to less than 0.1 µg/l from input concentrations of 300 to 700 µg/l.

During his six years of laboratory studies of reductive degradation technology as applied to endrin, toxaphene, and other chlorinated organic chemicals, Dr. Sweeney achieved varying reduction levels. These results do not, as Velsicol contends, establish that reductive degradation cannot consistently achieve the proposed standard. The varying reduction levels were achieved in tests designed to learn or accomplish things other than actual reduction levels. (For example, some of the tests were run for the specific purpose of trying to exhaust the reductant, or were run with reductants other than the one currently being used.) Dr. Sweeney testified that the results of these experiments (many of which used equipment and parameters entirely different from those presently used at the Velsicol pilot plant) did not detract from his conclusion that endrin can be consistently removed by the reductive degradation process to levels at or below 0.1 μg/l.

Velsicol takes the position that the pilot plant data to date do not support this conclusion. The pilot plant is being run on 100 gpm of synthetic feed (manufactured by diverting cooling water into the sewer system and relying on its contact with residues to provide endrin and heptachlor in the feed) with an average endrin concentration of 100 ppb. After initial startup problems due to malfunction of a pH control system, the plant operated from May 17 until May 27. These operating results demonstrated that reductive degradation can achieve excellent results, with endrin reduction below 0.1 Ppb. There were, however, problems with the operation of the pilot plant due to plugging. Mr. Marks testified that until the problem of getting adequate flow rates through the bed is solved, operation of the pilot plant cannot be sustained long enough to determine what it average long-term capability will be.

The pilot plant data support MRI's conclusion that reductive degradation has the potential of achieving concentrations of 1.0 ppb in the effluent. There were problems in the operation of the pilot plant, but there is no reason to believe that these problems cannot be solved. Dr. Meiners testified that with respect to a system based upon this or any other of the technologies, there could be problems at the outset including biological fouling, pH upsets, or excessive suspended solids. He also testified, however, that each of these problems could be readily solved. The pH (acidity or alkalinity) of the water can be controlled in a system simply by the addition of acid or alkaline. Biological fouling can be controlled in a number of ways, notably by the use of reagents to retard or prevent growth of microorganisms or by heat. Suspended solids can be removed by sedimentation and filtration. (Installation of sedimentation and filtration. was assumed in the MRI cost study.)

Dr. Sweeny said he could not agree that the pilot plant was inconsistent in its removal because he could confirm neither the analytical techniques and analyses nor the operating conditions. He testified that nothing in Velsicol's testimony regarding operation of the pilot plant would cause him to change in any way his conclusion that a treatment plant based upon reductive degradation technology could achieve reduction of endrin to approximately 0.1 μg/l or below and that such a plant with a capacity of up to 300 gpm could be designed and installed within one year.

Mr. Marks also testified that the reductive degradation process produces new compounds not present in the original feed which are probably chlorine-containing products which may pose toxic risks to aquatic biota comparable to those associated with endrin. He admitted on cross examination that the chemical identity of the by-products was unknown and that he did not know what their toxicity was.

There is no credible basis for this claim. This concern is apparently based on a 1970 study conducted by Sweeny and Fisher for the purpose of analyzing breakdown products of the reductive degradation process for chlorine content. Both Dr. Meiners and Dr. Sweeny explained that their study had been performed under totally dissimilar conditions from those presently used in the reductive degradation system (i.e., different reductant, a column versus a flask concept, and different gas chromatographic conditions). They are currently getting a much more extensive reaction than that which was achieved in the earlier experiment. Dr. Sweeny testified that if a reductive degradation system is operated properly, no chlorine should be left in the effluent. In addition, contrary to Velsicol's statement that Drs. Sweeny and Meiners admitted the possible toxicity of by-products in the effluent, the record is clear that Dr. Sweeny reached no such conclusion, and Dr. Meiners expressed his opinion that such by-products would be relatively nontoxic compared with the pesticide itself.

22. The activated carbon system is not under study at Velsicol's site, but technology available in other industries is believed to be transferable. In carbon adsorption, molecules become attached to the surface of the adsorbent. Granular activated carbon is a highly porous material having a very large surface area. Chlorinated aromatic hydrocarbons such as endrin and toxaphene respond very well to adsorption on carbon.

The MRI report concluded that carbon adsorption technology could achieve only 2 ppb. However, on the basis of testimony presented by Mr. Joseph Rizzo of Calgon Corporation at the hearing I have concluded that carbon adsorption can achieve the proposed standard of 1.5 ug/1 and that it can be installed within one year. Mr. Rizzo is Regional Marketing Director, Calgon Adsorption Systems. Calgon Corporation manufactures granular activated carbon and has pioneered the development and use of the carbon adsorption technology, and Mr. Rizzo has been one of the principal individuals involved in this effort. Over the past fifteen years he has worked on research and design of carbon adsorption treatment systems and processes and holds patents on processes using activated carbon. Mr. Rizzo has investigated the applicability of granular activated carbon to the removal of toxic pollutants including endrin, toxaphene, aldrin/dieldrin, and DDT, DDD and DDE from waste streams.

Wastewater treatment systems based upon the use of granular activated carbon are in use in more than 50 industrial plants throughout the United States. Wastewater flows for these plants range from a low of 6,000 gallons per day to 3 million gallons per day. These systems are removing a wide variety of organic compounds.

In designing a carbon adsorption treatment system, there are at least three approaches available:

(i) Install a carbon adsorption system and discard the activated carbon as it becomes exhausted;

(ii) Install a carbon adsorption system with a reactivation facility on-site—in the case of endrin and toxaphene, this would be by thermal reactivation in a multihearth or rotary kiln furnace;

(iii) Use an adsorption service which is presently available. This service uses modular adsorption units which are designed to meet a variety of flow and organic concentration conditions. The carbon is reactivated by the service supplier at an off-site facility.

The most expeditious of these approaches is the third. Mr. Rizzo testified, based upon his and Calgon's experience with such systems and his familiarity with the relevant isotherm data, that a system using the third approach could be designed and installed to consistently achieve concentration levels in the effluent less than 1 μg/l. He testified that this type of system cannot only achieve compliance with the 1.5 μg/l average daily maximum concentration, but also, if the carbon supply is kept fresh and carbon columns are changed at regular intervals, can assure compliance with a maximum concentration level of 7.5 μg/l at any time.

One of the reasons Mr. Rizzo gave as the basis of his opinion was that there is reliable adsorption isotherm data indicating that carbon adsorption can do even better than 1.5 ug/1 when enough carbon is used in a properly designed system. He also testified that Calgon has been very successful in going from the isotherm data stage to full scale field level, and that Calgon has had success in removing very small concentrations of dissolved organics. Mr. Rizzo testified that Calgon has constructed and operated a treatment system based upon carbon adsorption for the removal of another organic compound in contaminated well waters which reduced the level in a 3 million gallon per day wastewater stream to less than 1.5 ug/1. He also said Calgon has field data demonstrating the removal capabilities of carbon adsorption for polychlorinated biphenyls (also a toxic and persistent chlorinated organic compound), reducing the concentration levels from 50 to 60 ug/1 in the influent to less than 1.5 ug/1 in the effluent.

Calgon has performed isotherm tests which have confirmed the capability of carbon to adsorb endrin from concentrations of 62 ug/1 to concentrations of less than 1 ug/1, and as low as 0.07 ug/1. An adsorption isotherm is a graph of the relationship, at a given temperature and other conditions, between the amount of a substance adsorbed and its concentration in the surrounding solution. A reading taken at any point on an isotherm gives the amount of material adsorbed per unit weight of carbon. From adsorption isotherm data, a determination can be made of whether or not a particular degree of organic removal can be effected by adsorption alone. Isotherm data will also show the approximate adsorptive capacity of the carbon for the application. Mr. Rizzo testified that the laboratory adsorption isotherm is a reliable technique for ascertaining the feasibility of treatment with activated carbon.

Normally Calgon follows adsorption isotherm studies with granular activated carbon column studies. In the latter, the wastewater to be treated is passed through granular carbon to determine the necessary contact time to assure adequate removal. Calgon has not performed such studies on endrin. These studies can be used as the basis for designing full scale treatment systems.

Mr. Rizzo testified that in actual application Calgon has found that the field results of a full scale system based upon activated carbon adsorption have proven to be at least as good or better with respect to reduction levels achieved than the levels indicated by the isotherm data. However, neither Mr. Rizzo nor Calgon has any experience in employing carbon removal technology on endrin at the full scale level.

Velsicol argued that isotherm data (as opposed to pilot studies using actual wastewater) are inconclusive because the wastewater may contain some constituents which adsorb better than endrin. This presents no serious problem. Mr. Rizzo testified that if this occurs more carbon can be used to effect endrin removal or the columns can be changed more frequently. Although Velsicol might incur a slight increase in cost over a system designed to treat only endrin, the technological feasibility of such a system is not in doubt.

One of the bases for Mr. Rizzo's conclusion that carbon adsorption technology will achieve the standard was the success achieved in the Lake Shawnee incident. Lake Shawnee was a lake which had been contaminated with strychnine and 15 ppb of endrin. It was cleaned with a makeshift carbon adsorption system to less than 1 ppb of endrin. The flow rate was 175–198 gpm. Mr. Marks stated that the Lake Shawnee incident did not give data suitable for designing either a pilot or a full scale carbon adsorption unit; this was because very large quantities were used. Mr. Rizzo disagreed, saying that though large quantities were used they were not spent.

Mr. Rizzo's tremendous experience with carbon adsorption contrasts with that of Mr. Marks, who though experienced in implementation of waste treatment systems has had no experience with carbon adsorption systems. It was Mr. Marks' opinion that none of the three "dynamic" studies nor the isotherm studies showed that carbon adsorption could meet either the proposed effluent limitation of 1.5 ppb endrin over an extended period of time or the proposed maximum of 7.5 ppb. The three "dynamic" studies were the Lake Shawnee incident referred to above, an unpublished study done for Velsicol and a study done by Mr. Marks.

In the unpublished study done by Rykman, Edgerly, and Tomlinson Associates for Velsicol, two columns in series did not reduce endrin below 5 ppbs. However, Agency experts calculated that this study used a contact time of only 30 seconds. Such a study cannot be the basis for a conclusion as to the achievability of a 1.5 ppb standard. Mr. Marks' own study was a column study using synthetic feed. Based on this study Mr. Marks concluded that carbon adsorption would be economically infeasible on the ground that carbon consumption would be 9000 pounds per day, requiring installation of an in-house regeneration facility. (The 9000 pound figure was based on the assumption that 2269 gpm would have to be treated.) There is no support for this conclusion.

Mr. Marks also testified that most reported isotherm data, including those of Bernardin and Froelich relied on by Mr. Rizzo, seriously overstate the removal capability of carbon because they fail to account for the endrin adsorbed to the vessels used to hold the samples to be tested or to the filter and that greater adsorption occurred at lower temperatures. There is no credible foundation for this claim. Mr. Rizzo testified that such adsorption would simply indicate that there would be a lower weight pickup of the material and does not indicate carbon adsorption would not work. He also testified that Calgon had never had to change temperature to increase the effectiveness of a carbon adsorption system and that temperature would have very little technical or economic effect. Mr. Rizzo had no knowledge of whether endrin was left on the walls of the test bottles in the Bernardin and Froelich tests; he said Calgon's lab follows standard procedures and assuming that it was known that endrin would stick to the walls the lab would have used procedures to get the endrin off the walls.

Mr. Rizzo testified that Calgon can design and install a complete wastewater treatment system based on carbon adsorption within 90 days, including prefiltration equipment, and has done it on a number of occasions including a plant with a 3 million gallon per day wastewater flow. Mr. Rizzo reviewed the MRI cost data for carbon adsorption and concluded that the figures were somewhat high because the MRI design calls for a standby adsorber, which a Calgon-designed system would probably not use. With this one exception, he testified that the costs were reasonable.

23. Each of the systems described above would be preceded by sedimentation and filtration facilities so as to remove suspended solids from the wastewater stream. MRI calculated the costs of installing each of these four systems (except carbon adsorption) for two possible wastewater flows: 300 gpm and 600 gpm; it calculated the cost of carbon adsorption for a wastewater flow of 300 gpm only. MRI summarized the costs in Table I of Ex. EPA 8 as follows:

TABLE 1.—*Summary of costs for endrin wastewater treatment systems (1975, dollars)*

Treatment system	Wastewater flow rate (gallons per minute)	Endrin in treated effluent		Installed capital equipment cost	Annual operating cost	Cost per 1,000 gal wastewater	Cost per pound of endrin produced
		Parts per billion	Pounds per day				
Resin adsorption	300	1.4	0.0040	$770,000	$433,200	2.87	$0.072
	600	1.4	.0068	1,260,000	741,300	2.45	.124
Reduction degradation	300	1	.0036	433,000	181,800	1.20	.030
	600	1	.0072	631,000	240,000	.82	.042
Resin adsorption plus reduction degradation	300	0.1	.00036	954,000	537,200	3.55	.090
	600	0.1	.00072	1,541,000	889,700	2.94	.148
Activated carbon adsorption:							
30 min contact time	300	<2	<.0072	692,000	204,000	1.35	.034
60 min contact time	300	<2	<.0072	870,000	242,000	1.60	.040

Velsicol apparently did not find fault with the method by which MRI estimated costs. However, it argued that the costs were underestimated because the flow to be treated was underestimated. As previously mentioned, though Velsicol has segregated its endrin and heptachlor process wastes, the entire 2,269 discharge from outfall 003 is contaminated with endrin because of residual contamination of the sewer system. Thus the determination of the cost to achieve the standards depends on whether or not the entire 2,269 flow must be treated.

Two alternatives were discussed: replacement of contaminated pipes and lining of contaminated pipes. The amount of piping which would have to be replaced to entirely eliminate the problem is 2,400 to 2,800 feet. In 1975 Velsicol spent $1.2 million to put in new pipes in excess of 1,650 feet long. Mr. Sharpe, Plant Technical Service Manager of Velsicol testified that it would not be possible to replace all the contaminated pipes within one year unless perhaps the plant were completely shut down. He admitted, however, that the plant was shut down during the 1975 programs. Although somewhat ambiguous, Mr. Sharpe's overall testimony indicated that even if it might be technically feasible, replacing the contaminated sewer pipes would be very expensive and might result in closure of the plant.

Mr. Sharpe testified that Velsicol had investigated the possibility of "slip lining" the contaminated sewers. This is a technique whereby a high density polyethylene tube is inserted in the pipe and is extruded inside. Velsicol found that the cost for slip lining one 400 foot section was of the magnitude of $50,000, assuming no problems were encountered. Also, Mr. Sharpe indicated that slip lining around corners or angles is either impossible or costs a great deal more.

At $50,000 for 400 feet, the total expense to line most of the contaminated pipe would be of the magnitude of $350,000, or more if special problems were encountered. While the record does not contain much evidence on the topic, it does suggest that slip lining of the contaminated pipes would involve considerably lower expense than treating the entire 2,269 gpm flow. Mr. Sharpe estimated the capital cost of treating 2,269 gpm by resin adsorption as $5,157,100; by reductive degradation as $1,506,100; and by carbon adsorption as $2,187,600 to $3,176,800, depending on contact time (30–120 min.). (These latter figures were apparently somewhat over-estimated due to inaccurate computation of carbon requirements). By comparison, the MRI estimate of capital costs for 300 gpm treatment systems were $770,000 for resin adsorption; $433,000 for reductive degradation; and $690,000–$870,000 for carbon adsorption, depending on contact time (30–60 min.). Thus, without even considering the savings in operating costs, it would appear that slip lining would be considerably less expensive than the incremental cost of treating an additional 1,969 gpm. There was no indication in the record as to how long it would take to slip line the contaminated sewer lines, but the Agency believes it would take less than one year.

24. Velsicol argues that stormwater runoff may not be regulated under § 307(a). Velsicol correctly points out that § 307(a) standards may be applied only to point sources. As provided in 40 CFR 125.52(a)(2) of the regulations, point sources include conveyances which discharge stormwater runoff contaminated by contact with pollutant-contaminated soil, from lands or facilities used for industrial activities into navigable waters or into a separate storm sewer. (This is consistent with *Appalachian Power* v. *Train*, 9 E.R.C. 1033 (4th Cir. 1976), which held that "point source" does not include unchanneled and uncollected surface waters.) The standards issued under § 307(a) will be interpreted and applied in the manner indicated in § 125.52(a)(2). The proposed standards do not apply to stormwater runoff from areas subject to contamination solely by fallout from air emissions of endrin, but only to stormwater runoff from areas subject to direct contamination by endrin as a result of the manufacturing process. (§ 129.102(b)(1)(i)(b) and (ii).) In this regard the proposed standards are also consistent with Appalachian Power, as they define the discharges which are covered.) If as Velsicol alleges, such endrin contamination as occurs in outfalls 001 and 002 does not result from current manufacturing operations, such discharges would not be subject to the proposed standards.

Velsicol argues that the Administrator must specify the point of discharge for its discharges 001 and 002 so that if these discharges are covered by § 129.102(b)(1)(B) it can determine whether it is in compliance with the standard. This question was raised and answered in the Disposition of Motion and Application for Post-Hearing Review dated November 5, 1976. Whether these discharges are subject to the regulations and if so, at what point, are matters properly determined by the Regional Administrator based on consideration of factors specific to Velsicol's site.

Stormwater runoff, to the extent subject to the regulations, can be controlled, as discussed in "Wastewater Treatment Technology Documentation for Aldrin/Dieldrin, DDT, Endrin and Toxaphene Formulation". Velsicol's own witness, Mr. Clyde Sharpe, considered the cost of a collection and impoundment system, presumably as a feasible solution. Velsicol presumably could dike around its immediate manufacturing and loading areas so that none of the runoff reaching outfalls 001 and 002 would be covered by § 129.102(b)(1)(i)(B).

25. The Agency retained Arthur D. Little, Inc. ("ADL"), of Cambridge, Massachusetts, to assist in assessing the potential costs and economic impact of its proposed standards. ADL submitted a written report entitled "Economic Assessment of Proposed Toxic Pollutant Effluent Standards for Manufacturers and Formulations of Aldrin/Dieldrin, DDT, Endrin and Toxaphene" dated May 1976. ADL reviewed the MRI report including the cost figures, and conducted its own independent investigation of the pesticides manufacturing and fomulating industry. In its report, ADL used the MRI cost data, and made appropriate adjustments for treatment already installed, to determine the additional cost of the § 307(a) standards.

ADL concluded that the proposed standards could be met using reductive degredation or resin adsorption, and that using reductive degradation the maximum incremental cost as a percent of selling price would be 0.9 percent (based on a 600 gpm flow). ADL stated that this cost increase would not have an economic impact on either the company or the community. (Cost of 300 gpm treatment was estimated as 0.6 percent). The ADL report concluded that if resin adsorption were used to meet the proposed toxic standards, the 600 gpm treatment cost (3.6 percent) might cause an economic impact. The 300 gpm treatment cost, however, is only 2.0 percent, and there is no reason to believe that such a cost might have a significant economic impact on Velsicol.

The carbon adsorption technology was assumed by ADL to achieve only a 2 ppb standard; the cost to achieve that standard was 0.8 percent (600 gpm) or 0.7 percent (300 gpm). The testimony indicated, however, that the cost of carbon adsorption per gallon of wastewater treated had been underestimated because more carbon would be required to achieve a 1.5 ppb standard.

Velsicol argues that since its production is 3 million pounds per year, not 6 million as assumed by MRI, the cost-to-selling price ratios will increase. However it did not establish the amount by which the ratios would increase and there is no reason to believe it would increase enough to cause a significant economic impact on Velsicol.

To the cost of treatment must be added the cost of dealing with the problem of the contaminated sewers. As indicated above, the cost of slip lining would be in excess of $350,000. By comparison, the ADL report indicated that an additional capital cost of $362,000 and additional operating cost of $161,000 (for reductive degradation) would result in a 0.9 percent additional cost as a percent of selling price. Thus while the cost of dealing with the contaminated sewers cannot be precisely determined from this record, the order of magnitude does not appear to be such that, when added to the cost of treatment, it will cause a significant economic impact on Velsicol.

26. Velsicol argues that the Agency must file an inflation impact statement ("IIS"). Executive Order 11821 requires that major proposals for legislation and promulgation of regulations and rules by agencies of the executive branch be accompanied by a statement certifying that the inflationary impact of the proposals has been evaluated. The only possible criterion that would trigger the filing of an IIS in this case is a finding that the additional costs of production are more than 5 percent of the selling price.

The costs of the proposed technologies and the number of gallons to be treated are discussed above. There is no reason to believe that the cost of a 300 gpm treatment system using resin adsorption, carbon adsorption or reductive degradation including the additional cost of lining the contaminated sewer lines, would equal or exceed 5 percent of the selling price.

27. NRDC urges that these standards be expanded to cover discharges other than those of manufacturers and formulators, and in particular, discharges into publicly owned treatment works (POTW's).

The Agency knows of no point source discharges of the four substances which are not covered under the regulations with the possible exception of discharges by or into POTW's. Section 307(a)(5) authorizes the Administrator to designate the category or categories of sources to which the proposed toxic pollutant effluent standards will apply, and thus the exclusion of these discharges from the proposed standards is lawful.

Pesticides such as the ones in question here are not amenable to treatment in secondary systems (indeed they may hamper the operation of such systems), and hence the application of these standards to POTW's would be inappropriate. However, this is precisely why, as the legislative history demonstrates, the Agency is authorized to set pretreatment standards for discharges into POTW's under § 307(b) Senate Report 92–414

(92nd Cong., 1st Sess.) states at p. 62 that pretreatment is needed to control toxic substances which would otherwise degrade the capacity of the treatment system to function properly, and to minimize the introduction of compounds which are not removed by conventional treatment methods but offer a potential for incorporation in food chains, such as chlorinated organics and heavy metals.

The Agency is currently developing pretreatment standards covering these toxic substances which will be issued under § 307(b).

28. Velsicol, Hercules and others argue that the proposed standards for endrin and toxaphene should not automatically be incorporated into NPDES permits. Section 402(k) provides that compliance with an NPDES permit shall be deemed compliance (for purposes of section 309 and section 505) with section 307, except any standard imposed under § 307 for a toxic pollutant injurious to human health. Section 129.5(c)(2) provides that all toxic pollutants for which standards are set under § 129 are deemed injurious to human health under the regulations. Under § 129.5 (a)-(c) of the proposed regulations limitations based on the proposed standards would be incorporated into existing permits, and such limitations would automatically be subject to revision if the toxic pollutant standards were modified, regardless of the duration of the permit period.

The objection is made that the Administrator is simply "assuming" that these toxic pollutants are injurious to human health when in fact they are not. This is not correct. Section 129.5(c)(2) is intended to have, and has, exactly the same effect as if the Administrator had stated in the proposed standards that endrin and toxaphene are injurious to human health. It does not mean that EPA simply assumes that all § 307(a) toxic pollutants are injurious to human health.

Hercules argues that the Agency may not find a toxic pollutant injurious to human health just because it would be injurious if discharged in "any" quantity (meaning an unlimited quantity), but rather that the Administrator must determine whether the substance, in the amounts being discharged by actual dischargers, is injurious to humans. The correct meaning of section 402(k) is neither as broad nor as narrow as these interpretations. Clearly, as Hercules points out, many substances essential to human life would be injurious to human health if ingested in sufficient quantities, and therefore section 402(k) cannot refer to pollutants injurious in "any" quantity. Just as clearly, the Agency does not have to establish that an actual discharge of a particular substance is in fact threatening human health in order to find that that substance is "injurious to human health". The record establishes that endrin and toxaphene are both "injurious to human health" in relatively small quantities, and the FDA has taken action to protect humans from ingestion of both substances. In plain English they are very poisonous to humans. The Agency believes that Congress intended control of the discharge of such substances to be effective as early as possible.

29. No formulator challenged any of the proposed standards, nor was any evidence introduced at the hearing which tended to establish that the standards proposed for endrin or toxaphene formulators could not be complied with. (See discussion of comments on the proposed standards in the Summary of Written Comments below.)

TOXAPHENE

1. Toxaphene (chlorinated camphene) actually consists of a number of chlorinated compounds. Gas chromatographs show it contains 30-40 principal constituents. Toxaphene behaves much like other chlorinated hydrocarbon pesticides in the aquatic environment. It degrades slowly, adsorbs on particulate matter and concentrates in living tissues, especially lipids.

2. As noted in the discussion of endrin above, the laboratory bioassay is widely accepted in the scientific community as a basis for the derivation of water quality criteria and related standards. A 96-hour LC 50 bioassay test is customarily used to determine that concentration of a toxicant which causes death to half the test organisms during a 96-hour period under the test conditions. The data gathered from such tests are customarily used to assess the acute toxicity of a pollutant, as are the data from longer term chronic bioassays. Comparative results using the static and flow-through bioassay demonstrate that, in general, flow-through data yield lower toxicity values for a pollutant than static bioassay data since the concentration of the pollutant in the former tends to remain constant, while in the latter it is gradually reduced due to settling out, adsorption, or consumption by organisms of the pollutant.

3. Phytoplankton and zooplankton constitute the base of the aquatic food chain. The presence of an adequate plankton population can determine the scarcity or abundance of larger, economically valuable predator fish species. In 1962, five species of marine phytoplankton, chosen for their importance as a food source for clam and oyster larvae, were exposed to varying concentrations of toxaphene and other substances. Toxaphene was the most toxic of the chlorinated hydrocarbons tested. Concentrations of 150 μg/l were lethal to all organisms. At 10 μg/l no appreciable effect was seen with four species. One organism, *Monochrysis lutheri*, was killed by a concentration of 0.15 μg/l but not by .015 μg/l. The 96-hour LC 50's of toxaphene in static bioassay tests on several freshwater invertebrates commonly found in U.S. waters are: the stonefly, *Classenia sabulosa* 1.3 μg/l; the stonefly, *Pteronarcella badia* 3.0 μg/l; the stonefly, *Pteronarcys californica* 2.3 μg/l.

4. Steven Schimmel, a research aquatic biologist at the EPA Environmental Research Lab in Gulf Breeze, Florida, conducted 96-hour flow-through bioassays on five vertebrate and invertebrate species and 28-day tests on a sixth species. Each species selected is important either economically or as a link in the food chain or both. The species, and their importance and the tests results were:

Species	*96-h LC 50*
Pink shrimp—of considerable commercial importance. One of the principal shrimp marketed for human consumption. Important as food for the speckled trout, white trout, croaker, drum and other species.	1.4 μg/l.
Grass shrimp—an important food chain animal.	4.4 μg/l.
Sheepshead minnow—important in some estuarine food chains; predators of this fish include many inshore commercial fish.	1.1 μg/l.
Pinfish—in many areas the most abundant fish species. A link in the food chain supporting such commercially important species as the spotted seatrout, the sailfish, and the gulf flounder. Also of some importance as bait and for human food.	0.5 μg/l.
Oyster—widely distributed and of commercial importance.	96-h EC 50 16 μg/l (shell deposition reduced 50 percent).
Long-nose killifish—an extremely important food chain organism for a variety of commercial species.	28-d LC 50 for fry, juvenile or adult stages 0.9 to 1.4 μg/l.

5. Toxaphene is acutely toxic to a range of important freshwater fish at extremely low concentrations, as shown below:

Species		*96-h LC 50 (μg/l)*
Largemouth bass		2.0
Brown trout		3.0
Bluegill		3.5
Carp		4.0
Black bullhead		5.0
Goldfish		5.6
Coho salmon		8.0
Rainbow trout		11.0
Yellow perch		12.0
Channel catfish		13.0
Redear sunfish		13.0
Goldfish		14.0
Fathead minnow (hard water)		5.1
Fathead minnow (soft water)		7.5
Guppies (soft water)		20.0
Chinook salmon		2.5
Coho salmon		9.4
Rainbow trout		8.4
Rainbow trout	(53° F)	---
Stonerollers	(53° F)	14.0
	(73° F)	5.0
Goldfish	(53° F)	94.0
	(73° F)	50.0
Golden shiner	(73° F)	6.0
Bluntnose minnow	(53° F)	30.0
	(73° F)	6.3
Black bullhead	(53° F)	25.0
	(73° F)	1.8

6. Dr. Foster Mayer, Chief Biologist of the Fish and Wildlife Services Fish Pesticide Laboratory, U.S. Department of the Interior, testified that substantial differences in susceptibility to toxaphene may occur depending on the life stage of the organism tested. In static bioassays performed on three life stages of the channel catfish, newly hatched fry (before yolk adsorption) were extremely

resistant to toxaphene poisoning, while swim-up fry had a 96-hour LC 50 of 0.8 μg/l.

Daphnids, a freshwater invertebrate species, were continuously exposed to varying toxaphene concentrations during a complete life cycle in a flow-through system. Toxaphene concentrations of 0.12, 0.28, 0.54 and 1.0 μg/l significantly reduced the number of young daphnids produced. While after 14 days there appeared to be no effect on the production of young in the 0.07 μg/l concentration, after 21 days there was a 9% reduction in the total offspring produced.

In a recent study conducted by Dr. Mayer, yearling brook trout were continuously exposed in flow-through bioassays to toxaphene concentrations of 0.039, 0.068, 0.139, 0.288, and 0.502 μg/l for as long as 6 months. Growth of the trout exposed for 6 months to 0.288 and 0.502 μg/l was significantly reduced. The additional stress of physiological changes occuring before and during spawning caused a 50 percent mortality in the 0.288 μg/l concentration and a 100 percent mortality in the 0.502 μg/l concentration. There was 8 percent mortality in the 0.039, 0.068, and 0.139 μg/l concentrations. Concentrations of 0.068 μg/l and higher significantly reduced egg viability. Growth of the fry, as measured by length, was significantly reduced after 30 days of exposure in the 0.139 and 0.288 μg/l concentrations. All fry in the 0.052 μg/l treatments were dead in 30 days. After 60 days of exposure and thereafter, growth was significantly reduced in all groups of fish exposed to toxaphene. Finally all levels of toxaphene tested caused a significant increase in the ratio of calcium and phosphorus to collagen in the backbone of brook trout fry during a 90-day exposure. The data developed by Dr. Mayer in this research do not establish a chronic no-effect exposure level for toxaphene, but do show that such number is less than 0.039 μg/l in a 90-day exposure.

In other tests done by Dr. Mayer, emergence of midges (a freshwater invertebrate species) was significantly reduced after exposure to toxaphene concentrations of 3.2, 5.6, 10 and 32 μg/l, during a flow-through life cycle bioassay. Another invertebrate, the scud, was exposed to toxaphene for 30 days. Growth (as measured by length) was significantly reduced in the 0.25, 0.50 and 1 μg/l concentrations.

In further tests conducted by Dr. Mayer and his colleagues at the Fish-Pesticide Research Lab, one-week old fathead minnows continuously exposed in a flow-through system for 150 days to 0.094, 0.205, 0.399, and 0.727 μg/l toxaphene exhibited chronic adverse effects at every concentration level tested. Collagen content of the backbone was significantly decreased by toxaphene, and calcium control was significantly increased. The calcium and phosphorus/collagen ratio was 0.50 in the backbones of control fish, whereas it was 0.69, 1.2, 1.2, and 1.2 in the fish exposed to 0.094, 0.205, 0.399 and 0.727 μg/l toxaphene, respectively. All concentrations of toxaphene tested significantly decreased fish growth.

Because toxaphene caused a decrease in the collagen content of the backbone and an increase in calcium, Dr. Mayer believed that the backbone of the exposed fish might be dangerously fragile, and therefore less tolerant to stress. To verify this belief, six fish which had been exposed to concentrations of 0.094, 0.205, 0.399 and 0.727 μg/l toxaphene were subjected to an electrical shock. The backbones of the six control fish were unaffected by the test. The backbones of four fish from each of the four concentrations tested were broken in several locations, thereby confirming toxaphene's role in increasing the fragility of the backbone.

Dr. Mayer subsequently tested 30-day old fathead minnows in a second flow-through bioassay lasting 295 days. He testified that fry growth was reduced at 0.054 μg/l toxaphene, thus indicating that the chronic no-effect level is below 0.054 μg/l.

7. The toxicity of toxaphene has been determined for a number of birds. Acute oral toxicity values (LD 50) are as follows: young pheasants, 40.0 mg/kg; sharp-tailed grouse, 10–20 mg/kg; young mallards, 70.7 mg/kg; young bobtail quail, 85.4 mg/kg; lesser sandhill cranes, 100.0–316.0 mg/kg; fulvous tree ducks, 99.0 mg/kg.

In a study of pheasants fed 100 and 300 ppm of toxaphene in their diets for 2 to 3 months, the 300 ppm level caused a decrease in egg laying, hatchability, food intake and weight gain. Both dose levels caused greater mortality in young pheasants during the first two weeks after hatching than was observed in the controls.

High mortalities of fish-eating birds were observed at the Tule Lake and Lower Klamath Refuge in 1960, 1961, and 1962. Agricultural applications of toxaphene to surrounding farmlands were the reported cause of the extensive deaths. Fish from nearby marshes were found to have body burdens of about 8 ppm toxaphene. Toxaphene levels as high as 31.5 ppm were found in the fat of fish-eating birds.

8. Acute oral toxicity levels for various mammalian species are as follows:

Species	Route	LD 50 (milligrams per kilogram)	Vehicle[1]
Rat	Oral	90	Peanut oil.
Rat	do	60	Corn oil.
Rat	do	120	Kerosene.
Mouse	do	112	Corn oil.
Dog	do	49	Do.
Do	do	250	Kerosene.
Guinea pig	do	270	Corn oil.
Do	do	365	Kerosene.
Cat	do	25-40	Peanut oil.
Rabbit	do	75-100	Do.
Do	do	250-500	Kerosene.
Cattle	do	144	Grain.
Goat	do	200	Xylene.
Sheep	do	200	Do.
Rat	Dermal	930	Do.
Rabbit	do	4,000	Dust.
Do	do	250	Peanut oil.

[1] The vehicle used to apply a toxicant may influence the rate and extent of toxicant adsorption by the animal, whether by oral or dermal or other mode of application. Furthermore, some vehicles may themselves be significantly toxic.

9. In humans acutely toxic doses of toxaphene produce symptoms including salivation, leg and back muscle spasms, nausea, vomiting, hyperexcitability, tremors, convulsions and tetanic contractions of skeletal muscles. Diffuse stimulation of the cerebrospinal axis is the cause of most of these effects. After lethal doses, the convulsions continue until death occurs. However, acute toxaphene poisoning in humans is rare. When toxaphene was first used, four cases of poisoning by ingestion of four children under 4 years of age were reported. The same report contained a description of severe toxaphene poisoning in adults from accidental ingestion or injudicious use. Doses in three of these cases were estimated at 9.5 to 47 mg/kg.

10. There is some data available on the question of whether toxaphene is carcinogenic. As discussed above with respect to endrin, NCI tested toxaphene with rats and mice, but the NCI data on toxaphene are still unverified and NCI has not yet completed its analysis of the data. Dr. Reuber examined the NCI studies on rats and mice and concluded that both demonstrated that toxaphene is carcinogenic in rats and mice. Also, studies performed in 1969 with strobane, a chemical closely related to toxaphene, produced an increased incidence of lymphomas and hepatomas in the mice fed that chemical. None of this data has yet been reviewed under the Agency's Interim Policy.

For the reasons stated above with respect to endrin, because of the preliminary nature of this information, and the lack of any record evidence on what, if any, cancer risk may exist for man in light of such data, or the significance of the data in etstablishing an ambient water criterion, the Agency believes it provides an insufficient basis for modifying the proposed criterion or the toxic pollutant effluent standards for toxaphene. However, the existence of these data underscores the Agency's concern that discharges of toxaphene be minimized.

11. Like other chlorinated hydrocarbon pesticides, toxaphene is a persistent chemical and a long-lived environmental contaminant. It has a low solubility in water (about 0.5 ppm).

Pesticide movement through or across soil is facilitated by the movement of water. Overland flow is generally more important in pesticide transport than passage through soil. Two processes are involved: pesticide movement while dissolved in water and pesticide movement while adsorbed on soil. Following adsorption onto particulate matter and bottom sediments, toxaphene will remain undegraded and available to aquatic organisms for an as yet undetermined number of years.

Toxaphene has been reported to persist in soil for periods ranging from several months to more than 10 years. An experimental halflife of 4 years, similar to that of DDT, has been calculated for toxaphene. After release into lakes and ponds, toxaphene has been shown to persist for as long as 9 years.

There is little evidence concerning the extent to which toxaphene may degrade or detoxify in the environment. To the extent that rapid detoxification does occur, there is some evidence that it consists of the adsorption of toxaphene onto sediments, rather than any extensive chemical degradation of the toxaphene itself.

Dr. Leonard Guarraia testified that the data he had seen show that toxaphene accumulates in bottom sediments; that the toxaphene present in the sediments is available to harm bottom organisms even if buried beneath the surface; that any manmade or natural disturbance of bottom sediments, such as might result from dredging or from storms, would stir up the toxaphene and make it available again to the water column; and that such disturbances might release toxaphene from the sediments.

12. Bioaccumulation of toxaphene has been shown to occur in a number of freshwater and marine species. Since toxaphene has been shown to persist in the aquatic environment for years, bioaccumulation poses a latent and continuing threat to aquatic life of commercial and recreational importance. Bioaccumulation by such widespread organisms as oysters, trout, and catfish, all of which are consumed my man, carries the threat of toxic effects directly to man, for man has the capacity to store and accumulate compounds such as toxaphene in his tissues.

Experiments to determine the ability of a number of freshwater species to bioaccumulate toxaphene were conducted by Dr. Foster L. Mayer of the Fish-Pesticide Laboratory. In studies mentioned previously, yearling brook trout concentrated toxaphene by a factor of 16,000 and 5,000, respectively, at exposure levels of 0:502 μg/l and 0.039 μg/l. After 161 days, whole body residues of toxaphene in fish exposed to 0.288 and 0.502 μg/l toxahene were 2.4 and 8.9 μg/g, respectively. (Such high body concentrations pose a serious latent danger to the survival of these fish, since extensive mortality was experienced by fish exposed to these levels of toxaphene just prior to and during spawning.)

Brook trout from all toxaphene exposures (0.039, 0.068, 0.139, 0.228, 0.502 μg/l) were analyzed for the distribution of toxaphene residues between the fillet and the remaining tissue (offal) after 161 days. Toxaphene residues in the offal were 2.8 to 4.2 times that found in the fillet. The highest residue detected in the fillets was 4.9 μg/g, whereas residues in offal were 13 μg/g. (The FDA seizure level for toxaphene in fish to be consumed by man is 5 μg/g.) The highest concentration factor in the brook trout was found in the fry, which concentrated toxaphene up to 76,000 times the level in the water in only 15 days.

Toxaphene residues in fathead minnows after 150 days of exposure to 0.094, 0.0205, 0.399 and 0.727 μg/l of toxaphene were 5.9, 13, 22 and 52 μg/g, respectively. These residues represent accumulation factors of 55,000 to 70,000.

Adult channel catfish accumulated toxaphene from water after 100 days of exposure by factors of 17,000 to 26,000. Fry accumulated toxaphene in amounts ranging from 27,000 to 50,000 times that in the water.

After a 7-day exposure to a concentration of 0.125 μg/l and 0.062 μg/l, daphnids concentrated toxaphene to 4,000 times the water concentrations.

13. Tests to determine the bioconcentration phenomenon in marine species were conducted by Steven Schimmel at the Gulf Breeze Laboratory in Florida. His tests showed that toxaphene accumulated in whole body tissues of the longnose killifish by factors ranging from 4,200 to 60,000 times the water concentration in a 28-day period; concentration in ova ranged from 1,000 to 5,000. In 96-hour bioconcentration studies, concentration factors ranged from 3,100 to 20,600 in the sheepshead minnow; 9,000 to 15,200 in oysters; 400 to 800 in grass shrimp; and 800 to 1200 in pink shrimp. Pinfish concentrated toxaphene 3,800 times the amount present in the water.

14. A number of field studies have verified the conclusion drawn from laboratory tests that toxaphene bioaccumulates after its release into the environment. In a study conducted at Davis Lake, Oregon during 1961–1963 the following bioconcentration ratios between organism tissue and water concentration were observed: 500 for aquatic plants; 1,000 to 2,000 for aquatic invertebrates; 10,000 to 20,000 for rainbow trout; 4,000 to 8,000 for Atlantic salmon; and 1,000 to 2,000 in 1961, for lake bottom and mud. In that study toxaphene was applied to the lake at 88 mg/l and was found in 1962–3 to be present at levels of 2.1 and 1.2 μg/l, respectively.

In a study using marine organisms it was demonstrated that an accumulation of as much as 30 ppm took place in oysters exposed for 24 weeks to 1 ppb of toxaphene—a concentration factor of 30,000. In the ensuing 16 weeks in clean seawater the oysters excreted 90 percent of this load, but retained 3.0 ppm in their tissues—still 3,000 times the water concentration they had been exposed to originally. The oyster is a species used for human food and is of commercial importance.

In the estuarine waters of the United States, toxaphene residues as high as 15 μg/l were discovered in the ova of spotted seatrout, a commercial sport fish from coastal Texas. Dr. Robert Reimold, a witness for Hercules, has documented high toxaphene concentrations in a number of animals, including oysters, shrimp and anchovies, in the Georgia estuary surrounding Hercules' manufacturing plant.

15. The Estuarine Monitoring Program, directed by Dr. Philip A. Butler of the Gulf Breeze Environmental Research Laboratory in Florida, demonstrated that shellfish can bioconcentrate pesticides up to 70,000 times the ambient water level. Of the 664 samples taken in Georgia, 128 contained toxaphene, the maximum residue being 54,000 ppb. According to Dr. Butler, the large number of Georgia samples containing toxaphene reflects the direct contamination of the marine environment by the effluent from Hercules' plant. Dr. Butler personally reported to Mr. Schimmel that he found no toxaphene residues in samples taken from stations off the coast of Georgia this year. Mr. Schimmel testified that caution must be exercised in comparing these results to those of earlier years, since very few samples had been analyzed this year, and further, those analyzed included only migratory fish species.

16. A limited amount of information is available on the emergence of strains of species which have developed a resistance to toxaphene. The approximate 36-hour LC 50 for mosquitofish from five sites on the Mississippi River ranged from 10 to 30 μg/l. A resistant population of mosquitofish had a 36-hour LC 50 as high as 480 μg/l. It would be possible for such resistant fish to bioaccumulate toxaphene and transfer it directly to predators, including man.

17. The data cited above establish that toxaphene is highly toxic to a number of important and commercially valuable organisms, including invertebrates and vertebrates.

Toxaphene may persist in the aquatic environment, the soil and animal tissues for long periods of time, and is capable of bioaccumulation by factors of as much as 76,000 in freshwater fish and 60,000 in marine fish. Concentrations of toxaphene as low as 0.039 μg/l for 60 days will produce decreased growth and/or weakened backbones in the brook trout, and levels as low as 0.094 and 0.054 μg/l will within 150 days produce the same results in the fathead minnow.

18. The use of general application factors to estimate safe concentrations of toxicants in aquatic environments to protect against chronic exposure when experimental chronic toxicity data are lacking is a recognized and sound scientific procedure.

The application factor of 0.01, discussed above in connection with the ambient water criterion for endrin, is recommended by the National Academy of Sciences for organo-chlorine pesticides such as toxaphene. It is applied to the 96-hour LC 50 of the most sensitive species sought to be protected, in order to provide protection against adverse effects from chronic exposure.

Since reliable data had been developed only on a small number of organisms, it is reasonable to rely on data from the most sensitive animal tested. In relying on the most sensitive animal tested and increasing its protection by the safety margin inherent in the use of an application factor of .01, the Agency has sought to provide protection for even more sensitive organisms, which may exist but have not been studied.

The Agency proposed an ambient water criterion for toxaphene of 0.005 μg/l. This is based upon an application factor of 0.01 applied to the 96-hour LC 50 (0.5 μg/l) of the pinfish, which was the most sensitive species tested. However, the Agency in setting the ambient water criterion considered all the available data. Many fresh and saltwater organisms have 96-hour LC 50 values at or near 1 μg/l. Critical 96-hour LC 50 or comparable data include:

1.3 μg/l, stonefly; 1.1 μg/l, sheepshead minnow; 1.8 μg/l, black bullhead; 1.4 μg/l, pink shrimp; 1.0 μg/l, spot (48 hour); 0.5 μg/l, spot (144 hour).

Although all these test organisms may not be universally distributed in the waters of the United States, they represent types of organisms present in fresh, marine and estuarine water bodies throughout the country. (The pinfish has been found in the Brunswick Estuary, into a portion of which Hercules' plant discharges, and in the nearby Duplin Estuary.) Thus, while available data may not represent either the most sensitive or most important sensitive organism at a given geographical location, the data are indicative of predictable toxicological effects in the aquatic environment. Many of the species tested are of demonstrated commercial or food chain value, and additionally many are valuable as a recreational resource.

EDF argued that the application factor used by the Agency is underprotective, asserting that the no-effect level for the fathead minnow is 0.025 μg/l. Actually the no-effect level for the fathead minnow is not known, but the lowest observed effect level is 0.054. EDF next asserts that the 96-hour LC 50 for this species is 7.2 μg/l—a number which appears nowhere in the record. In the Criteria Document the 96-hour LC 50 for fathead minnows is 7.5 μg/l for soft water, and 5.1 μg/l for hard water. The latter number is the value generally used, and was used by EDF in examining EPA's witness Dr. Guarraia. As Dr. Guarraia testified, the best available data on this species confirm a 1 percent, or .01 application factor.

Dr. Mayer's brook trout study, also cited by EDF and discussed above, does indicate chronic effects at less than 1 percent of the 96-hour LC 50. However, the ambient water criterion of 0.005 μg/l established by the Agency is in fact well below the lowest chronic effects level for the brook trout (0.039 μg/l) and is below the lowest effect level for the fathead minnow by a factor of more than ten times.

Dr. Guarraia testified that in deriving the .005 μg/l ambient water criterion level, he relied on the National Academy of Sciences 1972 recommendation of an application factor of 0.01 applied to the 96-hour LC 50 of the most sensitive species tested. He stated that based on the information and material set forth in the crtieria document, the ambient water criterion of 0.005 μg/l could provide an ample margin of safety for aquatic life and for the consumers of aquatic life.

Mr. Schimmel also testified in support of an application factor of 0.01 for toxaphene and stated that based on the knowledge and information available to him the ambient water criterion of 0.005 μg/l should be protective of marine aquatic systems.

19. At the hearing, witnesses for Hercules, namely Drs. Robert J. Reimold and B. J. Copeland, testified concerning a comparison made by Dr. Reimold of the species diversity indices for the Brunswick Estuary, including Terry Creek (into which Hercules discharges its toxaphene-contaminated wastewater), and the nearby Duplin Estuary, which is similar in many respects but into which there is no discharge of toxaphene. Dr. Reimold is an estuarine ecologist, and Dr. Copeland is a professor of zoology, botany and marine sciences. Based upon this comparison of the species diversity indices over a five-year period, Hercules contends that their discharges are having no adverse effects on any organisms in the receiving waters and therefore the Agency's proposed standards are overly restrictive.

The Agency believes that there are very serious scientific objections to the use of species diversity indices, that they have numerous inherent limitations and shortcomings and that they have limited value unless basic hypotheses about diversity and community structure are demonstrated independently for the case at hand. While Hercules tries to suggest that the National Academy of Sciences endorses the use of species diversity indices for use in setting ambient water criteria, in fact the contrary is true: for pesticides the NAS recommends precisely the method used by the Agency, namely use of application factors applied to the 96-hour LC 50 for the most sensitive species tested. NAS recommends use of diversity studies for pollutants which physically change the environment in an integrative manner, e.g., turbidity, alkalinity, color; these pollutants often do not damage species, but change the environment to cause species to avoid the areas. NAS does not recommend use of diversity studies for pesticides and other chemical toxicants.

A species diversity index is a mathematical formula which is a function of the distribution of the numbers of individuals among various categories or species; there are several types of species diversity indices but many of them are simply mathematical variations of a common formula. A species diversity index may be applied to any number or kind of objects, e.g., people in buildings or telephone codes. The species diversity index reflects the distribution of individuals within the categories. The index number is highest when the number of individuals in a sample is equally distributed among the various categories, or species; it is lowest when the distribution is skewed, i.e., there are many more individuals in some categories, or species, than in others. In other words, if you killed 10 percent of the organisms in each species this would not affect the species diversity index at all. (Such a kill could occur with nonselective toxicants. Available bioassay data suggest that toxaphene may be non-selective since the LC 50's are in the same numerical range for many species tested.)

The relationship between diversity and stability, or ecological health, if there is any such relationship at all, is not well understood, as conceded by Dr. Reimold. The use and validity of species diversity index data is a matter of considerable debate and difference of opinion within the scientific community. In fact, no theoretical relationship has been established between a diversity index and the health of a system. A diverse system may be healthy or unhealthy.

While the species diversity index allows a numerical comparison of systems in terms of the evenness of distribution of individuals among species, one cannot tell from the index alone whether or not the system is stable or unstable, healthy or unhealthy. A system with a high diversity index may not in fact be healthy.

There are many things that species diversity does not reflect which are important and useful in assessing the health and comparability of ecosystems under examination. In the case of Reimold's work, the comparability of impacted and non-impacted areas, as to health or physical, chemical and biological similarity, is questionable and cannot be determined from species diversity indices alone. Species diversity indices do not indicate what, if any, organisms are suffering chronic adverse effects or are under stress from a pollutant. Similarly, they do not reveal anything with respect to bioaccumulation of a pollutant by organisms. They do not indicate whether one or more additional species would be present but for a particular toxic pollutant. The species diversity index number does not tell you the number of species present in the ecosystem or in the samples taken, or how long the species taken in the samples have been in that location. Species diversity index data disclose nothing with respect to the importance of the various species; one must look to the identity and numbers of the species to draw any conclusions in this regard.

In fact one can tell very little by the species diversity indices or a comparison of the indices. As the Hercules witnesses conceded, each system differs to some extent despite what may be a similarity in species diversity index numbers. In order to tell anything about the health of an ecosystem, one must look to the species themselves, and their condition. The actual comparison of the number of species and individuals reported for each of the five years in Dr. Reimold's study, which Dr. Reimold agreed should be examined in order to learn what is actually going on in the ecosystem, strongly suggests that Hercules' discharges of toxaphene into Terry Creek throughout the entire five-year period continuing up to the present time have had a definite adverse impact on the ecosystem, resulting in far fewer species in Terry Creek than in the comparable Duplin Estuary or even in the remaining portions of the Brunswick Estuary.

Dr. Reimold's samples show the following:

Year	Terry Creek	All Brunswick Estuary sites	Duplin Estuary
Species:			
1970-71	8	57	65
1971-72	13	40	50
1972-73	17	39	43
1973-74	21	35	33
1974-75	14	33	36
1975-76	9	24	13
Individuals:			
1970-71	176	1,914	59,113
1971-72	400	4,439	30,263
1972-73	896	4,644	5,247
1973-74	323	1,332	2,658
1974-75	234	1,996	3,201

For 1972-73 data, the H-bar species diversity indices for Terry Creek and the Duplin Estuary were 1.72 and 1.80, and for 1973-74 they were 2.25 and 1.99 respectively, despite the substantially greater number of species and individuals in the Duplin Estuary in each instance. As Dr. Reimold himself testified, this type of data bears out that one cannot tell the health of a system by comparing index numbers, but one must go to the real world and see what species and what organisms are in fact present in the ecosystem.

For each of the periods discussed above (except 1975-76) Dr. Reimold conceded that one of the reasons why the number of species in Terry Creek was so much lower than it was for the Duplin Estuary or the remaining portions of the Brunswick Estuary was that Hercules' toxaphene discharges were having a definite adverse impact on the ecosystem. (For the period 1975-1976 Dr. Reimold expressed doubt that this was the case.)

Another difficulty with Dr. Reimold's study was that it did not analyze the whole ecosystem. Dr. Copeland, Hercules' witness, testified that in developing water quality standards or in considering the effect of something in the system, one should consider the system as a whole. As an example of what Dr. Copeland meant, in the several studies which he conducted in Galveston Bay, he sampled and studied all of the different categories of species, including phytoplankton, zooplankton, nekton (free-swimming organisms), and benthic organisms (those which live on the bottom), and he also examined the water quality itself.

Dr. Reimold in contrast did not make an analysis of the whole system; he studied and compared only the nektonic organisms in the Duplin Estuary, Terry Creek, and Brunswick Estuary. He did not sample and examine zooplankton or phytoplankton. Nor did he examine benthic organisms even though it is well known that toxaphene tends to settle in sediments, to which benthic organisms are directly exposed, and even though Dr. Reimold was aware in 1969 (prior to the commencement of his studies) that there was toxaphene in the sediments of Terry Creek at concentration levels in excess of 4,000 parts per million (ppm).

Because there are often high fluctuations in the species and numbers of individuals in "control" bodies of water, and fluctuations in species and numbers of individuals in both the control and the test body of water which are undoubtedly due to factors other than pollution levels, it is very difficult if not impossible to make meaningful comparisons of the effects of pollution by use of species diversity data, given the large number of unascertainable variables.

For the same reason, Dr. Reimold conceded, it is hard to establish cause and effect relationships, and in order to draw conclusions one would have to get results which exceed these substantial variations. Because of these substantial natural variations, it is extremely difficult if not impossible to draw any reliable conclusions from a comparison of ecosystems (even apart from all of the inherent limitations of species diversity data set forth previously) when the ecosystems themselves are very different to begin with. The data indicate that Terry Creek and the Duplin Estuary are very different. Thus for example in the statistical analyses performed in Dr. Reimold's 5th Annual Report for all five of the years covered, based upon the number of individuals in the samples, in 190 comparisons made all but 22 showed statistically significant differences; in a similar statistical analysis based upon biomass, of the 190 comparisons made, all but 10 showed statistically significant differences. These data indicate that the two systems are not comparable.

In addition, Dr. Reimold's sampling methods were seriously deficient. To analyze an entire ecosystem, one should use whatever nets and other equipment and devices are necessary to get all the different types of species. It is important to collect everything possible because, despite random selection of sampling areas or times, organisms are not randomly distributed. Livingston, in a well-respected study of kraft pulp mill effluents in Appalachee Bay, Florida, used numerous techniques to assure collection. Sampling was carried out with dipnets, seines, gill and trammelnets, otter trawls, and hook and line. Some stations were blocked off with seines and poisoned with rotenone. Larger predators and game fishes not sampled by otter trawls were also followed by examination of catches made by sport fishermen at a local fish camp and commercial fishing interests in the area. Livingston used rarefaction procedures to correct differences in trawl sizes and trawl times. (It is interesting that at the end of his study Livingston questioned the validity of the various diversity indices he used as indices of the "health" of his Florida study area).

Dr. Reimold, by contrast, used no rarefaction procedures and used only otter trawls. This type of net is inadequate to collect all species of nekton.

Furthermore, replication of sampling is important as a check on what is being collected, methods used, and reproducibility of suspect results. Reimold did not do duplicate sampling each time in each location even though in a number of instances he collected no organisms whatsoever in his trawl runs. Without replicate samples it is impossible to know whether the area was defaunated or whether he was just collecting samples in the wrong places.

As Dr. Reimold testified, use of several net sizes and inclusion of day and night samples might well produce great differences in the number of individuals and species. This could significantly affect the results, as Dr. Reimold conceded. Dr. Reimold's explanation was that "it was just not one of those variables we had sorted through for." During the hearing it was revealed that though not disclosed in his statement of "methods" in his 5th Annual Report, during the period 1970-73 Dr. Reimold used two different sizes of otter trawl nets in the Duplin Estuary, though not in Terry Creek apparently. He also stated that for the first three years of his sampling he included night samples as well as day samples in the samples taken from the Duplin Estuary and later changed his testimony to state that he had included such samples in the Duplin data through June 1975. Dr. Copeland testified that you usually get 20-25 percent more organisms by night than by day. The Livingston study referred to above collected as much as 50 percent more at night. (Neither of these points was included in Dr. Reimold's methodology section, contrary to sound scientific practice.) These inadequacies in sampling methods make it impossible to draw valid conclusions from the data generated.

As indicated above, some organisms are more affected by toxaphene at one life stage than another. Dr. Reimold to date has produced no data on age or size of fish, though he conceded that these data are important. Dr. Reimold has never measured water concentrations or studied pollutant concentrations in the field to compare their effects on aquatic organisms with the effects demonstrated in laboratory tests.

Finally, Dr. Reimold's study contained errors of nomenclature (misidentification of species) and figures, which casts doubt both on the validity of the report and its conclusions. As one example of the errors in figures, his Table 10 shows no grass shrimp caught for the years 1970-71, 1971-72, and 1972-73, while his Table 11 gives biomass of 4 grams, 16 grams and 2 grams for grass shrimp in those periods. The errors were such that the report did not engender confidence.

20. As in the case of endrin, following its discharge from a point source an effluent containing a pollutant such as toxaphene typically becomes dispersed and greatly diluted. The area of dilution is referred to as a "mixing zone;" it will vary in size and shape from one body of water to another. It is reasonable to expect dispersion and dilution of a pollutant such as toxaphene in a ratio of 300:1 or more following its discharges

into more receiving waters. As discussed above for endrin, dischargers can take various steps to enhance dispersion and dilution.

It is reasonable to expect that an effluent standard of not to exceed 1.5 µg/l (average per day calculated over any one month) or 7.5 µg/l (maximum in a sample(s) for any working day), after dispersion and dilution in a reasonable mixing zone, will in most instances achieve an ambient water criterion of 0.005 µg/l.

Because of the natural variations in the receiving water hydrology and hydrography, the actual boundaries of mixing zones can best be set and the optimum location for a discharge pipe established on a site-specific basis. More stringent effluent concentrations to provide an ample margin of safety for aquatic organisms and other organisms (including man) can be provided for under § 129.7 of the proposed regulations where needed at a particular site.

There is no reason to believe that any significant environmental harm will result from allowing an occasional excursion up to 5 times the average daily concentration of 1.5 µg/l, so long as the daily average (calculated over any reasonable period, such as a calendar month) is not exceeded.

21. The Agency's proposed mass emission standard of 0.00001 kg/kkg of toxaphene produced for existing manufacturers was calculated by dividing the average daily mass emission (at the plant of the largest manufacturer of toxaphene both in terms of production volume and wastewater volume) by the estimated average daily production. The average daily mass emission was calculated by multiplying the existing flow at Hercules' plant by the average concentration specified in the standards and applying a conversion factor to yield kg/day. The average daily production was determined by dividing the maximum estimated annual production (in kg) by the number of operating days per year.

The average wastewater flow volume from the Hercules toxaphene plant is 167 gpm, or .24 million gallons per day (MGD). This data was used by the Agency in computing its proposed mass emission standard.

Although Hercules declined to furnish its precise production levels of toxaphene, it offered no evidence to contradict those presented by EPA and relied upon in computing its proposed mass emission standard. The production figure utilized by EPA was 50–80 million lbs. of toxaphene per year.

Although Hercules offered evidence that its final discharge volume is 15–20 MGD with a toxaphene concentration of between 5 and 10 micrograms per liter on the average, the evidence discloses that this is not the discharge from the toxaphene plant, but is a discharge to Terry Creek after dilution with approximately 15–20 MGD of cooling water.

No compelling evidence or justification was presented at the hearing to warrant a modification of the proposed mass emission standard so as to allow Hercules credit for its dilution of the wastewaters from its toxaphene manufacturing plant and thereby allow it to discharge mass amounts of toxaphene on a daily basis in excess of the levels proposed by the Agency.

However, Hercules' objection that the mass emission standard would be difficult to meet even if the concentration standard were met has prompted the Agency to reconsider the calculation of this number. The calculation in the proposed standard was based upon the maximum production level, 80,000,000 lbs. per year, and the average wastewater flow volume of .24 MGD.

As stated in the preamble portion of the Notice of Proposed Rulemaking, the purpose of the mass emission standards is to prevent a manufacturer from utilizing dilution instead of treatment to achieve compliance with the concentration standard, rather than to impose an additional limitation more stringent than the concentration standard.

If the calculation used to derive the mass emission level in the proposed standard were recomputed using the maximum wastewater volume for any month for which data are available (.30 MGD, average for July 1974), coupled with a production volume figure at the low end of the 50–80 million lbs. per year (i.e., 50 million lbs. per year) the mass emission level for existing sources would be .00003 kg/kkg.[2]

Using the same figures and the concentration level for new source performance standards yields a mass emission standard for new sources of .0000002 k/kkg.[3]

Evidence was presented at the hearing (as discussed above with respect to endrin) that if a plant ceases operation the residual amounts of the compound in the plant, including piping, may result in a continued discharge of the compound. Because there would be no production level at that time on which a mass emission level could be based, it would be reasonable to require that, during any calendar month for which the toxaphene manufacturing plant is shut down, the discharger must comply with a mass emission standard under which the production volume used is the average production level for the most recent 360 days of operation of the toxaphene plant (which approximates an operating year.)

22. MRI, as part of the scope of the work described previously in connection with endrin, prepared and submitted a report entitled "Wastewater Treatment Technology Documentation for Toxaphene Manufacture." The MRI study considered data gathered from all four of the manufacturers (Hercules, Inc., Tenneco Chemicals, Inc., Riverside Chemical Co. and Vicksburg Chemical Co.). MRI considered information from each of these four plants, and all four were visited. Of these four manufacturers, only one filed an objection to the Agency's proposed standards for toxaphene, namely Hercules. (Vicksburg Chemical Company filed comments which are discussed in the Summary of Written Comments.)

The technologies which MRI examined for toxaphene, and believed to be the most feasible, were the same as those selected for endrin and discussed above, namely: reductive degradation, resin adsorption, reductive degradation and resin adsorption in series, and carbon adsorption. Similarly, the expert testimony of Dr. Keith Sweeny concerning reductive degradation, and of Joseph L. Rizzo concerning the feasibility of carbon adsorption, as described above in connection with endrin, is also applicable generally to toxaphene wastes with only minor modification.

Endrin and toxaphene are similar in both physical and chemical properties which are important to the phenomenon of adsorption, such as polarity; both are hydrophobic and both are only slightly soluble in water. The chemical natures of the two pesticides are also similar; both are highly chlorinated products containing over 56 percent chlorine by weight. Both compounds can be expected to behave similarly in many chemical reactions, such as oxidation or reduction, and in fact both have been shown to be resistant to oxidation and susceptible to reductive degradation reaction.

MRI utilized essentially the same data base for toxaphene as it did for endrin in arriving at its conclusions that each of the treatment systems mentioned would be feasible. However, while there is excellent laboratory data for each of these technologies, including reductive degradation tests run by Envirogenics on wastewater from Hercules' toxaphene plant, there has not yet been constructed a pilot plant operation for a toxaphene manufacturer, as there has been in the case of the endrin manufacturer, Velsicol.

Hercules presented the testimony of Lawler, Matuskey & Skelly Engineers to the effect that "there is no established treatment technology" (emphasis added) which Hercules can utilize for complying with the proposed standards and that it is not feasible to achieve operation of a treatment facility within one year after promulgation of the proposed standards. As in the case of endrin, the difficulty with the objections made by the manufacturer (Hercules) is that they are premised on the assumption that the Agency may not promulgate a standard unless there is proof, in the form of experience with actual treatment plants (or at least pilot plants) treating similar industrial wastes, that within one year a given technology can be installed and routinely achieve the standard without upsets or malfunctions. As discussed elsewhere in this decision the Agency does not agree.

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[2] The actual calculation is as follows: Daily volume (.30 MGD) × maximum permissible toxaphene concentration expressed in parts per million (.0015 ppm) × conversion factor for gallons to pounds (8.33) = pounds of toxaphene per day in discharge (.00375). 50,000,000 pounds per year production divided by 365 days per year = 137 thousand pounds per day. .00375 pounds per day in discharge divided by 137 thousand pounds per day production = .00003 pounds discharge per thousand pounds of production or .00003 kg/kkg of production.

[3] The new source mass emission standard bears the same ratio to the existing source mass emission standard as respective concentration standards. Hence .00003 × 1/1.5 = .000002 kg/kkg.

23. The design flow for a treatment system utilizing the resin adsorption technology would involve neutralization and sedimentation, followed by filtration with a filter backwash (sludge removed would be incinerated or land filled) followed by the XAD-4 resin adsorption process. For both resin adsorption and reductive degradation, destruction of free chlorine is desirable. This can be done by exposure to sunlight for eight hours or by addition of sodium sulfite. (Removal of the chlorine prevents the discharge of copper in the effluent from a reductive degradation system.)

24. The design flow diagram for a reductive degradation system is essentially the same as for resin adsorption. The design flow diagram for the two processes in series would begin with sedimentation, followed by filtration with filter backwash, followed by the resin adsorption process, followed in turn by reductive degradation treatment.

With respect to reductive degradation, the MRI report states that this technology can achieve levels below 3 µg/l. Dr. Meiners was asked at the hearings how much below 3 µg/l could be achieved, and he testified that it would achieve less than 1 µg/l, based upon the most recent data received from Dr. Sweeny. Dr. Sweeny testified that toxaphene reduces more easily than endrin based upon his actual laboratory experience with effluent from the Hercules plant, and that one should be able to achieve 0.1 µg/l of toxaphene in the effluent using the reductive degradation technology.

25. The carbon adsorption model system would involve neutralization and sedimentation followed by a filtration process with a filter backwash and sludge disposal. This in turn would be followed by two carbon adsorption units in series, with a third standby adsorption unit available to be switched on line as soon as the toxaphene shows signs of breaking through the first unit or approaching the maximum desired effluent concentration. Spent carbon would be incinerated or thermally reactivated.

The isotherm data for toxaphene indicate that the weight percent pickup by carbon adsorption would be even greater for toxaphene than for endrin at concentrations below 5 µg/l. In its written report MRI estimated that carbon adsorption could achieve concentration levels in the effluent of less than 5µg/l (parts per billion) of toxaphene. At the hearing Dr. Meiners of MRI was asked how far below 5µg/l (5 ppb) could be achieved by carbon. Dr. Meiners replied that using carbon adsorption "it is technically feasible to reduce the toxaphene concentration in water to below one part per billion." Mr. Rizzo of Calgon Corp. also testified that a carbon adsorption system could remove toxaphene from industrial wastewaters to less than 1 µg/l on a regular and consistent basis. These conclusions are borne out by repeated tests with toxaphene yielding laboratory isotherm data reliably showing removal capabilities to levels below 1 µg/l.

Hercules has had only limited experience with carbon. They have a plant at Hattiesburg, Mississippi, which does not produce any chlorinated hydrocarbon pesticides. This plant has a carbon adsorption system with a reactivation facility on site. The plant is not a Calgon installation and is not the modular type of system described by Mr. Rizzo. Hercules' witness, Mr. Charles Dunn, conceded that the failures of the carbon adsorption system were basically mechanical and not a result of failure of the carbon adsorption technology itself.

As noted previously during the discussion of treatment technology for endrin removal, with respect to all of the systems discussed above, any problems with respect to pH, biological fouling, free chlorine, or excessive suspended solids can be readily solved. Calgon has the capability to thermally regenerate spent carbon containing chlorinated hydrocarbons, including toxaphene.

26. In a draft report MRI had at one point expressed the opinion that it might take more than a year and perhaps several years to install treatment systems based upon the technologies described above. Prior to issuance of the report in final form, however, more current information was obtained by EPA from Calgon Corp. with respect to installation time of a carbon adsorption system, from Environgencis Co. with respect to installation time of a reductive degradation system, and from Rohm and Haas with respect to installation time of a resin adsorption system. All of the companies indicated that such systems could be installed in less than one year. After review of this data by MRI and EPA, this portion of the draft was excluded in the final edition.

According to Rohm and Haas, a treatment system based upon resin adsorption would take approximately 42 weeks to deliver a 100 gpm system, and as long as 62 weeks till start-up.

Dr. Sweeny testified that a wastewater treatment system based upon reductive degradation technology with a design capacity of up to three hundred gallons per minute wastewater flow could be designed and installed so as to commence operation within a period of one year or less from date of placement of an order. Dr. Sweeny, who has run tests using actual Hercules effluent, testified that this one-year period included bench scale testing at the laboratory, further testing at the toxaphene manufacturing site, design, installation, and full operation including the working out of any start-up problems. He believes Environgencis would contract to install such a system to achieve 1.5 micrograms per liter of toxaphene in the effluent within the one-year period.

Although it took over 1½ years to install the Velsicol pilot plant, a reductive degradation treatment system to treat toxaphene could be installed and operating within a year, because toxaphene reduces readily, and much of the information and experience which has been gained in the endrin/heptachlor experience will be directly translatable to the toxaphene job. As Dr. Sweeny testified, much has been learned over the past year. In addition, the degradation characteristics of toxaphene are known, and the equipment, needed to assemble the system can be obtained and put together in a period of 90 days. Thus as Dr. Sweeny testified, "I feel very confident that this job could be accomplished well within the year framework that is mentioned."

As noted above in the discussion of treatment technology for endrin, Joseph Rizzo of Calgon Corp. testified extensively on the features and characteristics of wastewater treatment systems based upon carbon adsorption. He testified that based upon his experience, a carbon adsorption system can be designed and constructed within substantially less than one year of placing an order, assuming that an adsorption service is used.

In response to questions from counsel for Hercules, Mr. Rizzo testified that he was authorized on behalf of Calgon to state that Calgon would agree to design and construct an industrial treatment system for a toxaphene manufacturing plant which would consistently achieve a monthly average effluent concentration of toxaphene of 1.5 µg/l and to have it operational within one year from the date of placement of the order.

The timetables suggested by Lawler, Matuskey & Skelly (2½ to 3½ years) are more leisurely timetables based on a conservative approach to designing a treatment facility. There is no question that such an approach would yield a greater degree of confidence in the ultimate treatment level and functioning of the treatment plant and perhaps would permit design of a system at reduced cost, but such an approach is not necessary. With a lesser degree of confidence the technologies can clearly be installed and operational within one year. Carbon adsorption technology, for instance, has in several instances been used on an emergency basis to clean up spills of organochlorine pesticides.

27. In addition to considering the feasibility of these technologies, MRI performed an extensive cost analysis. Although MRI's costs include a pH adjustment tank and sedimentation and filtration, Hercules' witnesses conceded that some of these costs might be reduced or eliminated in view of the fact that Hercules already has pH control, lagoons which are available for sedimentation or settling, separation tanks, pumping equipment, and spill control facilities. In addition, Hercules already has a laboratory and gas chromatographic analysis equipment.

The cost of a toxaphene wastewater treatment system based upon reductive degradation system would not be significantly greater than the cost of a system to treat endrin at Velsicol's plant. There are only two additional features which a system to reduce toxaphene would have. First, there should be a filtration step to remove any sediment (this is already in place at Velsicol); and second, there would be a neutralization step with respect to the active chlorine present in waste such as that coming from Hercules. This would involve chemical or photochemical neutralization, which would add not more than 10 percent to the cost.

Hercules manufactures approximately 120 different products. Its plant is approximately 50 years old. The average waste flow from its toxaphene production plant is 167 gpm, or 0.24 million gallons per day, with an effluent concentration averaging approximately 114 µg/l of toxaphene. This waste flow is diluted with cooling water to produce an eventual discharge of 15 to 20 million gallons per day, which dilutes the toxaphene concentration allegedly to less than 10 µg/l.

A summary of the MRI conclusions with respect to reduction levels achievable and associated costs for each of the four alternative systems (as well as Hercules' existing system), for alternative wastewater flow rates of 200 gpm and 300 gpm, are set forth as follows:

Summary of estimated costs for toxaphene wastewater treatment systems (Hercules plant, Brunswick, Ga.)

	Wastewater flow rate (gallons per minute)	Toxaphene in treated effluent		Installed capital equipment cost	Annual operating cost	Cost per pound of toxaphene product [1]
		Parts per billion	Pounds per day			
Hercules' system	[2] 181 [3] 146	200 58	0.44 .10	$800,000 800,000	$300,000 300,000	$0.0060 .0060
Resin adsorption	200 300	1.4 1.4	.0034 .0050	586,200 790,400	324,300 433,200	.0065 .0087
Reductive degradation	200 300	<3 <3	<.0072 <.0108	350,700 433,700	154,100 181,800	.0031 .0036
Resin adsorption plus reductive degradation	200 300	.1 .1	.0002 .0004	731,600 955,900	410,300 537,500	.0082 .0108
Activated carbon adsorption:						
30 min contact time	300	<5	<.018	617,000	194,200	.0039
60 min contact time	300	<5	<.018	794,000	232,500	.0047

[1] Based upon an annual production of 50,000,000 lbs of toxaphene.
[2] August 1974. [3] February 1975.

28. As noted above, ADL prepared an economic impact assessment for EPA of the impact of compliance with the proposed toxic pollutant effluent standards for toxaphene. ADL concluded that "since Hercules can meet the proposed standards using reductive degradation or carbon adsorption, the additional cost it would incur is less than $0.0090/kg (treatment cost to selling price ratio equals 1.1 percent). This additional cost would not be judged as being economically impactive to either the company or the community." ADL concluded that for no toxaphene manufacturer would the additional cost exceed 2.1 percent of the selling price.

Hercules' own independently retained engineering experts, Lawler, Matusky & Skelly, concluded from their analysis that the costs, including both capital and operating costs, of compliance by Hercules with EPA's proposed standards would amount to less than 2 percent of the price of their toxaphene product.

The ADL report also concluded with respect to formulators of toxaphene as well as the other three pesticides subject to the proposed standards that "it is very unlikely that any formulators will incur significant costs in implementing treatment to meet the proposed standards."

No credible or substantial evidence was offered at the hearing which would suggest that compliance with the proposed standard would result in a significant economic impact to either the company or the community. Because there is no reason to believe that the standards cannot be achieved there is no reason to consider the economic impact which would result in the unlikely event that one or more toxaphene plants were shut down due to failure to comply with the standards.

29. In the Agency's proposed standards, it was specified that the acceptable analytical method for measuring and monitoring for the presence of any of the four toxic pollutants is the method specified in 40 CFR Part 136, except that under those sections where discharge of the pollutant is prohibited, a one-liter sample size is required to increase the analytical sensitivity. (See subsections (b)(2) and (c)(2) of §§ 129.100–129.103.)

The EPA-approved method for measuring and monitoring for organochlorine pesticides (including aldrin/dieldrin, DDT (DDD, DDE), endrin and toxaphene) in industrial effluents is set forth in a document entitled "Method for Organochlorine Pesticides in Industrial Effluents", and is based upon the use of gas chromatography. By the use of this method aldrin can be detected at 0.001 µg/l, dieldrin and DDE can be detected at 0.001 µg/l, and endrin can be detected at 0.003 µg/l. The usual detection level for endrin is 0.003 to 0.004 µg/l. Toxaphene concentrations in water samples can be reliably detected using gas chromatography at 0.5 µg/l level, and in some cases down to the 0.1 µg/l level.

Although the "Method for Organochlorine Pesticides in Industrial Effluents" document prescribes a sample of 100 milliliters, and although this sample size is adequate for a detection level of 1 µg/l, increasing the sample to 1 liter (which is ten times 100 milliliters) will increase the analytical sensitivity. This will enable the person running the test to detect the pesticide at the levels stated above.

No convincing evidence was introduced at the hearing to contradict the foregoing.

Since enforcement proceedings against dischargers would be based on violation of the applicable discharge limits and not on th[illegible]nt criterion itself, the fact that the ambient criterion level is below detectable limits is of no concern in monitoring for compliance with these standards.

30. As noted above in the discussion of endrin, the Agency believes that toxaphene is injurious to human health within the meaning of § 402(k), and that § 129.5 of the Agency's proposed regulations correctly provides for the incorporation of the proposed standard for toxaphene into existing NPDES permits.

31. As noted above in the discussion of endrin, discharges of toxaphene into POTW's are not required to be made subject to the proposed standards. The Agency is currently developing pretreatment standards covering dischargers of toxaphene under § 307(b).

SUMMARY OF WRITTEN COMMENTS

The principal written comments of a substantive nature, together with the Agency's responses thereto, are summarized below (except to the extent dealt with elsewhere in this decision):

(1) The New York State Department of Environmental Conservation suggested that discharges from areas subject to contamination solely by air fallout should not be excluded as provided in subsection (b)(1)(ii) of §§ 129.100–103, in order to avoid a "loophole" which, in their opinion, would permit effluent concentrations of toxic pollutants to exceed those deemed safe. The State also suggested that this would provide for easier enforcement since the Agency would not have to prove that an effluent containing an excessive concentration was not contaminated by air fallout.

The Agency's authority under § 307(a) is limited to discharges of toxic pollutants from point sources. Insofar as the State's comment relates to nonpoint sources of contaminated storm water, it is properly addressed to the organization developing the relevant areawide waste treatment management plan under § 208 of the Act. Insofar as it relates to point sources of contaminated storm water, adequate regulatory authority is provided under § 124.83 and § 125.52 of the regulations.

Regarding enforcement, it is the Agency's position that the permittee has the burden of demonstrating that his discharge is excluded under subsection (b)(1)(ii) of §§ 129.100–103.

New York State also commented that the § 307(a) standards would limit pollution from air fallout to amounts not to exceed levels resulting in 0.003 μg/l for aldrin/dieldrin or 0.001 μg/l for DDT, DDD and DDE in the receiving waters. Nothing in these standards is intended to directly or indirectly control receiving water concentrations of aldrin/dieldrin or DDT (DDD, DDE) by regulating air emissions of these compounds.

(2) Several commenters mentioned possible adverse environmental effects resulting from the use of evaporation ponds. New York State recommended use of either a chemical landfill or total incineration.

The Agency concurs that an evaporation pond can pose a threat to wildlife if not properly screened and fenced. The Agency also recognizes that air emissions from ponds and landfills and leaching from landfills could possibly be sources of contamination, if appropriate facilities are not used. The amount of evaporative losses to be expected from aldrin/dieldrin and DDT (DDD, DDE) is unknown. Data showing the presence of these materials in bottom materials of natural water bodies over long periods of time confirm the Agency's expectation that these pesticidal materials would be tightly adsorbed to bottom sludges. This would indicate that losses as vapors are likely to be insignificant.

In any event it is the Agency's position that where an evaporation pond, landfill or incineration is suggested as an alternative technology for disposal of toxic wastes, only suitably designed, located and operated facilities should be considered for such disposal. Specifications for such facilities are outside the scope of these standards.

(3) Several comments were received with respect to the site-specificity and cost of the evaporation pond technology identified by the Agency as a treatment system applicable to aldrin/dieldrin and DDT, (DDD, DDE) manufacturers and formulators.

The Agency recognizes the limitations inherent in the evaporation pond technology. In areas where precipitation greatly exceeds evaporation this technology may be inappropriate. However, even in areas with a net precipitation balance, the evaporation pond may be supplemented with the use of heating, aeration, fixed or movable roofing systems, and wicks to enhance evaporation. Furthermore, the volume of wastes to be treated may be reduced by the roofing over of areas subject to the regulations in order to prevent runoff, or by the elimination of water from the process.

The Shell Oil Company commented that the Agency's projected capital cost of $25,000 and annual operating cost of $6,000 for an evaporation pond servicing a projected 1 million pound per year aldrin production plant might be too low due to the need for a larger size pond than the one evaluated in the MRI report. In light of these comments the Agency again reviewed the design criteria and costs with its contractor, Midwest Research Institute (MRI). This review confirmed the Agency's belief that the technology is feasible and the costs are reasonable.

It is expected that this technology could be used, if at all, by a new source. If an existing source should seek to install this technology the costs could be greater, depending on its particular climatological and physical circumstances. Thus an existing source may wish to consider less costly alternatives. A new source, on the other hand, can avoid the potential problems of net precipitation balance through careful site selection and can reduce flow volume so that the size and cost of an evaporation pond would be minimized. While it is conceivable that in a given case site selection might result in "hidden" costs such as increased distance to market (or for that matter, hidden benefits), these costs and benefits are too speculative to be quantified by the Agency.

(4) New York State commented on the amount of dilution necessary to achieve the ambient water criteria and indicated that, taking into account background levels resulting from fallout, the effluent standards alone might be insufficient to ensure that the ambient water criterion would be met.

In the preamble to its June 10, 1976 proposal (41 FR 23579–80), the Agency acknowledged its reliance on dilution and dispersion of wastewater discharged into the navigable waters to achieve the ambient water criteria. During the course of the hearings, the Agency presented the testimony of Dr. William Brungs and Dr. Richard Callaway, both experts in the area of "mixing zones," in support of its standards.

The Agency believes that sufficient dilution and dispersion will occur in virtually all situations. However, in the event that such dilution and dispersion do not occur, § 129.7 of the regulations provides a "tightening variance" whereby a more stringent effluent limitation may be established to achieve the ambient water criterion where insufficient dispersion takes place.

(5) The U.S. Department of Agriculture indicated that the time allowed for interagency review was insufficient.

The Agency agrees that the time frame for review was short, but the Agency was unable to allow further time for review under the constraints of the statute and the consent agreement in *NRDC* v. *Train*, Civ. No. 75–172, supra.

(6) The U.S. Department of Agriculture indicated that there was insufficient evidence to justify "zero discharge" standards for the four pesticides under consideration and that they could result in plant closures.

With respect to aldrin/dieldrin and DDT, DDD and DDE, as indicated elsewhere herein the Agency has received no comment from manufacturers or formulators suggesting that the standards cannot be met. With respect to endrin and toxaphene, zero discharge applies only to formulators. The Agency believes that the reports cited in its statements of basis and purpose present sufficient evidence to justify zero discharge standards for formulators of endrin and toxaphene and for manufacturers and formulators of aldrin/dieldrin and DDT (DDD, DDE). These reports indicate that the standards will not have a significant economic impact.

(7) The U.S. Department of Agriculture suggested that the test protocols used to evaluate toxicity do not evaluate metabolism or degradation of the compounds and that the tests do not determine how pH, hardness, turbidity and temperature affect the ultimate fate of the chemicals in the environment. USDA requested that an environmental impact statement and an inflation impact statement be filed.

To determine the environmental fate of the four substances under all the possible conditions of pH, temperature and the like would be administratively infeasible. The EPA believes the studies submitted as part of its statement of basis and purpose adequately demonstrate the persistence of the toxic substances in question.

Section 511 of the Act provides that no action of the Administrator shall be deemed a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 ("NEPA"), 83 Stat. 852, with exceptions not pertinent here. Thus, under § 101(b) of NEPA an environmental impact statement is not required. And, as discussed elsewhere herein, the Agency does not believe an inflation impact statement is required.

(8) The National Agricultural Chemicals Association ("NACA") criticized the procedures and time frames required to be followed prior to promulgation of the standard, stating that the procedures precluded the assembly of a fair and impartial record and that additional time for gathering evidence should be allowed.

At the time the Rules of Pratice were proposed, the public was afforded ample opportunity to submit comments and all such comments were taken into consideration by the Agency prior to their final promulgation of the rules. NACA should have made its criticisms of the Rules of Practice then. The short time frame for the standard-setting process is mandated by § 307(a) of the Act, which indicates that Congress considered toxic pollutant discharges a very serious matter. The Agency believes that its Rules of Practice permit compilation of a fair and impartial record.

The Agency agrees that the time frame for the development of toxic pollutant effluent standards under § 307(a) is very short. If NACA believes that a longer period is more appropriate, it should address this suggestion to Congress.

(9) NACA commented that the Agency should not have given less weight to economic and technological consideration than to environmental and public health considerations.

As explained in the preamble to the June 10, 1976 proposal (41 FR at 23578), the Agency is required under § 307(a) of the Act to place primary concern on the protection of environmental health. While the Agency believes that standards could have been set without regard to technological or economic considerations, in the absence of anything in the statute precluding consideration of such factors, the Agency concluded that the interests of responsible rulemaking would be best served by at least giving them some consideration in the rulemaking process. There is no basis in the statute for giving equal or greater weight to economic and technological considerations than to environmental and public health considerations.

(10) NACA and the Pesticide Formulators Association ("PFA") questioned the reliability of responses received from the telephone survey conducted by ADL during the preparation of their report assessing the economic impact of the standards on the formulator industry. The survey had sought information from formulators as to the feasibility of compliance with the effluent standards. NACA and PFA claimed that ADL's failure to identify the purpose of its survey caused the respondents to withhold information as to known difficulties which they had experienced with formulator waste treatment systems.

The telephone survey was used for the limited purpose of confirming information assessing the feasibility of compliance with the standards as proposed. The survey served as a mechanism to elicit constructive comments from those formulators who would potentially be affected by the regulations but it was not the sole basis for the economic assessment for the Agency's standards. Technology assessment was based principally on the MRI report, which included visits to plants. The ADL report should be considered reliable in light of the limited purpose for which the telephone survey was made.

Formulators were given the opportunity to participate in the hearings, but none did so. Written comments submitted on behalf of formulators contained only generalized and unsupported assertions that the standards cannot be met. In the absence of specific evidence submitted by formulators, the Agency cannot disregard the carefully researched and considered opinions of its contractors.

(11) NACA claimed that a zero discharge requirement for formulators was unreasonable due to an inability to collect and process runoff water.

In its supporting materials for the § 307(a) standards, the Agency addressed the technological problems in applying the standards to formulators. As part of its review, the Agency identified a technology incorporating the use of roofing, diking and other methods to eliminate the pesticidal contamination of runoff from formulator facilities. The Agency concluded that the application of the identified technology was both technologically and economically feasible for both large and small formulators. The Agency also identified the evaporation lagoon as an alternative for formulators where such a facility would be feasible.

(12) The National Fisheries Institute supported the proposed regulations and stated that the proposed standard for toxaphene and endrin manufacturers would provide an adequate degree of protection to fish, wildlife and humans. They urged the expeditious promulgation of pretreatment standards for discharges of these toxic pollutants into publicly owned treatment works and stressed the importance of further monitoring of endrin and toxaphene discharges in order to assess the need for more stringent standards.

The Agency is in agreement with these suggestions. As stated in the preamble to the Notice of Proposed Rulemaking, the Agency is in the process of developing pretreatment standards for these pesticides. It will, moreover, continue to monitor for their presence in the nation's waters to determine whether in the future the standards established at this time should be revised so as to provide greater stringency.

(13) PFA disagreed with the Agency's cost figures for pesticide formulator compliance with a zero discharge limitation. The comment said that based on MRI estimates, costs for installing evaporation lagoons, diking, and pumping of storm water, would involve capital investments of $48,200 and an annual operating expense of $10,110, thereby causing a 50 percent increase in a facility's capital value for an average 175,000 pounds per year toxaphene formulation plant.

The comment misinterprets the cost figures provided by MRI to the Agency and assumes that use of an evaporation lagoon would be required. The estimated costs for compliance by formulators were from $1,000 to $4,000 (see 41 FR at 23585). These costs would cover roofing, diking and other runoff control measures.

If the runoff control measures were implemented, the Agency does not believe that the use of an evaporation lagoon would be required. PFA acknowledged that in the formulator industry, processes are designed for zero discharge of process and waste streams.

Since the estimated cost of runoff control facilities is nominal, the Agency believes that the economic impact upon the formulator industry would be insubstantial. Since presently available technology can achieve a prohibition without substantial adverse economic impact to formulators, the Agency believes that it is reasonable to require compliance with this admittedly very stringent standard.

(14) PFA suggests that formulators should be allowed to discharge as much as manufacturers.

The standard for manufacturers of toxaphene and endrin is less stringent than that for formulators for the reason that manufacturers cannot comply with a zero discharge standard whereas formulators can. The Act recognizes in § 307(a)(5) that different standards will be set for different categories of dischargers discharging the same substance. The standard for manufacturers is nevertheless considered sufficiently stringent to provide an ample margin of safety as required by § 307(a)(4).

(15) American Cyanamid questioned the analytical methods the Agency chose to use to determine whether a source is in compliance with the regulations. Their comment also suggested a modification of the "Method Section" (subsections (b)(2) and (c)(2) of §§ 129.102 and 129.103.)

The Agency's definition of "prohibited" as set forth at § 129.2(d) of the regulations specifies that the absence of the pollutant shall be determined by "any analytical method." For the "Analytical Methods Acceptable" sections the Agency specifies the method set forth at 40 CFR Part 136 for those standards permitting a discharge. Where the standard is zero discharge, a larger sample size than that recommended in 40 CFR Part 136 is required to increase analytical sensitivity.

The Agency intends that the method specified in the Method Sections will be used to show presumptive compliance with the standard. However, the Agency has specifically reserved its prerogative to apply a more sensitive method to a particular discharge for determining whether a source is in compliance with a prohibition. Thus, if the prohibited pollutant should be detected by any method, the discharger will be found to be in violation of the standards. A discharger may raise any challenge to the more sensitive method in the enforcement proceedings.

(16) One commenter disagreed with the Agency's findings that DDT is acutely toxic to fish, animals and man and that it is among the most highly toxic of those substances known.

The Agency set forth considerable data as to the toxicity, persistence, degradability and environmental fate and effects of DDT (DDD, DDE) in the Criteria Document for DDT (DDD, DDE) which was an integral part of the Agency's statement of basis and purpose underlying the regulations. In light of the overwhelming evidence documenting the harmful environmental effects of DDT and its metabolites, the Agency concludes that its statements supporting a prohibition of DDT are warranted and that such a prohibition is necessary to provide an ample margin of safety. The cancellation of most uses of DDT pursuant to proceedings under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) further bolsters the Agency's conclusions that DDT is highly toxic and indeed poses a cancer risk to man.

(17) The Ford Motor Company submitted comments objecting to the inclusion of an ambient water criterion for each of the four pesticides on the grounds that this exceeded the Agency's authority under section 307(a) of the Act. If the Agency should choose to include them, however, Ford urged the adoption of the criteria on a case-by-case basis, claiming that national criteria were scientifically inappropriate and unnecessary.

Since these are national standards, a case-by-case approach to the ambient water criteria would be inappropriate and would require extensive duplication of effort. It should also be noted that the criteria recommended by the Agency in these proceedings are consistent with those being recommended to the States under section 304(a) of the Act.

While establishment of such criteria are not legally required under section 307(a), they provide a most helpful intermediate step in establishing levels of effects to be avoided, and in setting, in turn, the effluent standards themselves which are to guard against such effects. They also provide a triggering mechanism for the "tightening variance clause" established in section 129.7 for water bodies to which a discharge at the levels in the standards still would not provide an ample margin of safety owing to site-specific peculiarities.

(18) Vicksburg Chemical Company charged that the Agency had failed to consider the cost of analytical requirements and its impact on the small pesticide manufacturers.

The MRI reports which assessed the available treatment technologies for each of the four pesticides at issue included "laboratory" costs as direct costs. In addition to using the MRI report evaluations as the basis for its own report, ADL included estimated analytical costs of $40,000 per year for outside laboratory work in its economic assessment of the standards.

The Agency notes that no additional cost would be incurred for those sources whose NPDES permits already require pesticide analyses to be performed since the monitoring required by the proposed regulations would essentially duplicate that presumably already required in the NPDES permit.

(19) Vicksburg Chemical Company claimed that the Agency failed to establish that present discharges of toxaphene from existing point sources are causing the ambient water criterion set forth in the standards to be exceeded. Vicksburg further claimed that the Agency did not provide "demonstrated" technology for new source performance standards pursuant to sections 304 and 306 of the Act.

By these comments, the company clearly misinterprets the Agency's authority to establish effluent standards for toxic pollutants under section 307(a) of the Act. Since chlorinated hydrocarbon pesticides including toxaphene have been found to be highly toxic to a wide variety of organisms and to be highly persistent in the environment, these regulations are intended to provide protection against anticipated damage from the continued accumulation of these materials in the environment. Discharges in excess of the standards urged by the Agency for existing sources are likely to result in the ambient water criterion being exceeded, at least in some locations; hence the need for the standards. The standards for new sources provide an even more ample margin of safety, as the Agency is clearly authorized to do under section 307(a). Section 307(a) standards are technology-forcing regulations and need not be based on existing, in-place technology. The provisions of sections 304 and 306 do not apply to standards issued under section 307(a).

(21) Objections were received with respect to three sections of the general regulations: § 129.6, relating to credit for pollutants in the intake water; § 129.5(c) relating to revision of NPDES permits to require compliance with a toxic pollutant effluent standard; and § 129.7 relating to the "tightening variance."

As indicated above, the general regulatory provisions are not "standards" subject to the formal rulemaking procedure, but the Administrator has included them in the June 10 proposal to ensure informed rulemaking.

Objection was made to § 129.6 (the so-called "net-gross" regulation), which relates to adjustment of the effluent standard for the presence of a toxic pollutant in the intake water, because credit is given only if the intake water is taken from the same body of water as that into which the discharge is made.

Section 129.6 is essentially the same as the Agency's net-gross regulations for NPDES permits issued under section 402 of the Act (40 CFR § 125.24(c) and § 125.28). Under all of these sections, in order to obtain credit for pollutants in the water supply the discharger must show (1) that the water supply and the receiving water are the same body of water and (2) that the pollutants in the water supply will not be removed by any wastewater treatment system whose design capacity and operation were such as to reduce pollutants to the level required by the standards in the absence of the pollutants in the water supply. Section 125.28 has been held valid in *Hooker Chemicals & Plastics Corp.* v. *Train*, 537 F. 2d 620, 633 (2d Cir. 1976) and *American Petroleum Institute* v. *EPA*, 9 E.R.C. 1252, 1261 (10th Cir. 1976). In each case the court specifically noted the "same body of water" restriction. In *Appalachian Power Co.* v. *Train*, 9 E.R.C. 1033, 1053–4, as modified 9 E.R.C. 1274 (4th Cir. 1976) and in *American Iron and Steel Institute* v. *EPA*, 526 F. 2d 1027, 1056 (3d Cir. 1975), a contrary result may be implied. The "same body of water" requirement was not squarely addressed in any of these cases, and the regulations have not been remanded to the Agency. Challenges to the net-gross regulations in *American Iron and Steel Institute* v. *Train*, Doc. No. 75–2124, 75–2148 (Third Circuit, Oct. 5, 1976) and *Diamond Shamrock Corp.* v. *Train*, Civ. No. 75–1917 (D. D. C. Oct. 22, 1976), were dismissed on the ground that the regulations were not ripe for judicial review until they had actually been applied to a discharge. The Agency believes the "same body of water" requirement in § 129.6 of the proposed regulation is valid.

American Iron and Steel Institute ("AISI") also objects to § 129.6 because it provides that credit for pollutants in the water supply will not be granted unless:

> it is *demonstrated* * * * that the toxic pollutants present in the owner's or operator's intake water will not be removed by *any* wastewater treatment systems whose design capacity and operation were such as to reduce toxic pollutants to the levels required by the applicable toxic pollutant effluent standards in the absence of the toxic pollutant in the intake water. 41 FR 23593 (June 10, 1976.) [emphasis added]

AISI interprets this to mean that if "any conceivable" wastewater treatment would remove the pollutants credit will not be allowed. This result is not intended by the Agency. The word "any" refers to whatever wastewater treatment systems are in place or planned, so long as their design and operation is such as to reduce toxic pollutants to the levels required by the applicable standard.

AISI also objects that the proposed regulations deny credit when a discharger treats its water before using it. A similar provision was contained in § 125.28 of the regulations, which was upheld in *American Petroleum Institute* v. *EPA*, *supra*. The Agency continues to believe that such a provision correctly interprets the Act.

AISI objected to § 129.7 because it does not provide for a "loosening" variance where local conditions permit. The Agency believes that § 307(a) requires nationally applicable toxic pollutant effluent standards. The effect of the modification proposed by AISI would be to require the Agency to make site-specific determinations whenever requested by a discharger. This would not only be administratively burdensome on the Agency, but it would completely undermine the national standard set forth in the regulations.

As the court said in *Gulf Oil Corp.* v. *Hickel*, 435 F. 2d 440 (D.C. Cir. 1970),

> "Administrative agencies and officers have a primary task to administer broad policy mandates for the common good of our society, and they cannot be required to refine their rules to assure tailormade equity for each of the complexities that may arise." (at 447)

The tightening variance allows the Agency to promulgate a reasonable national standard, not unduly overprotective, while at the same time assuring that in all cases an "ample margin of safety" will be provided for.

CONCLUSIONS

1. The regulations of general application proposed in the FEDERAL REGISTER on June 10, 1976, 41 FR 23576 et seq., as § 129.1–§ 129.8 of Chapter I of Title 40, Code of Federal Regulations, provide a sound framework for the implementation of the toxic pollutant effluent standards in accordance with the requirements of § 307(a) of the Act and should be promulgated as proposed.

2. The toxic pollutant effluent standards proposed by the Agency for aldrin/dieldrin (§ 129.100) by publication in the FEDERAL REGISTER on June 10, 1976, 41 FR 23576 et seq., embody a careful and thorough consideration of the toxicity of aldrin/dieldrin, its persistance, degradability, the usual or potential presence of affected organisms in any waters, the importance of the affected organisms, and the nature and extent of the effect of aldrin/dieldrin on such organisms, as required by § 307(a) of the Act. The standards provide an ample margin of safety for aquatic and other organisms and consumers thereof, including humans, who may be affected by discharges by manufacturers or formulators of aldrin/dieldrin and fully comply with the requirements of § 307(a). They are technologically achievable and are not likely to result in serious adverse economic impact to the pesticide manufacturing or formulator industries or to the Nation.

The toxic pollutant effluent standards proposed by the Agency for aldrin/dieldrin are fully supported by substantial evidence on the record as a whole. No modification of such standards is justified "based upon a preponderance of evidence" adduced at the hearings within the meaning of § 307(a)(2) of the Act, and such standards should be promulgated as proposed.

3. The toxic pollutant effluent standards proposed by the Agency for DDT (DDD, DDE) (§ 129.101) by publication in the FEDERAL REGISTER on June 10, 1976, 41 F.R. 23576 et seq., embody a careful and thorough consideration of the toxicity of DDT (DDD, DDE), its persistence, degradability, the usual or potential presence of affected organisms in any waters, the importance of the affected organisms, and the nature and extent of the effect of DDT (DDD, DDE) on such organisms, as required by § 307(a) of the Act. These standards provide an ample margin of safety for aquatic and other organisms and consumers thereof, including humans, who may be affected by discharges by manufacturers or formulators of DDT (DDD, DDE) and fully comply with the requirements of § 307(a) of the Act. They are technologically achievable and are not likely to result in serious adverse economic impact to the pesticide manufacturing or formulating industries or to the nation.

The toxic pollutant effluent standards proposed by the Agency for DDT (DDD, DDE) are fully supported by substantial evidence on the record as a whole. No modification of such standards is justified "based upon a preponderance of evidence" adduced at the hearing within the meaning of § 307(a)(2) of the Act, and such standards should be promulgated as proposed.

4. The toxic pollutant effluent standards proposed by the Agency for endrin (§ 129.102) by publication in the FEDERAL REGISTER on June 10, 1976, 41 FR 23576 et seq., embody a careful and thorough consideration of the toxicity of endrin, its persistence, degradability, the usual or potential presence of affected organisms in any waters, the importance of the affected organisms, and the nature and extent of the effect of endrin on such organisms, as required by § 307(a) of the Act. The toxic pollutant effluent standard proposed by the Agency for endrin for existing manufacturers of 1.5 µg/l, together with the mass emission standard set forth below, provides an ample margin of safety for aquatic and other organisms and consumers thereof (including humans) who may be affected by discharges by manufacturers of endrin.

The mass emission standard for existing manufacturers of endrin set forth in § 129.102(b)(3)(i), for the reasons stated above, should be modified from 0.0003 kg/kkg of endrin produced, as proposed, to 0.0006 kg/kkg of endrin produced and provision should be made for situations in which there is no production. As thus modified, this mass emission standard will provide reasonable protection against the use of dilution alone as a means to comply with the concentration standard which would result in the discharge of unjustifiably large amounts of endrin to the environment. For the same reasons, the mass emission standard for new manufacturing sources of endrin set forth in § 129.102(b)(3)(ii), should be modified from 0.00002 kg/kkg of endrin produced to 0.00004 kg/kkg of endrin produced, and to provide for situations in which there is no production.

The toxic pollutant effluent standards proposed by the Agency for endrin formulators provide a very ample and indeed the maximum margin of safety for aquatic and other organisms and consumers thereof, including humans, who may be affected by discharges by formulators of endrin.

The toxic pollutant effluent standards proposed by the Agency for endrin, as thus modified, fully comply with the requirements of § 307(a) of the Act, are technologically achievable, and are not likely to result in serious adverse economic impact to the industry or to the nation.

The toxic pollutant effluent standards proposed by the Agency, for endrin, with the modifications set forth above, are fully supported by substantial evidence on the record as a whole. No further modification of the standards proposed by the Agency for endrin is justified "based upon a preponderance of evidence" in the record of the hearings within the meaning of § 307(a)(2) of the Act, and such standards should be promulgated as proposed, with the exception of the modification of the mass emission standard as set forth above.

5. The toxic pollutant effluent standards proposed by the Agency for toxaphene (§ 129.103) by publication in the FEDERAL REGISTER on June 10, 1976, 41 FR 23576 et seq., embody a careful and thorough consideration of the toxicity of toxaphene, its persistence, degradability, the usual or potential presence of affected organisms in any waters, the importance of the affected organisms, and the nature and extent of the effect of toxaphene on such organisms, as required by § 307(a) of the Act. The toxic pollutant effluent standard proposed by the Agency for toxaphene for existing manufacturers of 1.5 µg/l, together with the mass emission standard set forth below, provides an ample margin of safety for aquatic and other organisms and consumers thereof (including humans) who may be affected by discharges by manufacturers of toxaphene.

The mass emission standard for existing manufacturers of toxaphene set forth in § 129.103(b)(3)(i), for the reasons stated above, should be modified from 0.00001 kg/kkg of toxaphene produced, as proposed, to 0.00003 kg/kkg of toxaphene produced, and provision should be made for situations in which there is no production. As thus modified, this mass emission standard will provide reasonable protection against the use of dilution alone as a means to comply with the concentration standard, which would result in the discharge of unjustifiably large amounts of toxaphene to the environment. For the same reasons, the mass emission standard for new manufacturing sources of toxaphene set forth in § 129.103(b)(3)(ii) should be modified from 0.0000006 kg/kkg of toxaphene to 0.000002 kg/kkg of toxaphene produced, and provision should be made for situations in which there is no production.

The toxic pollutant effluent standard proposed by the Agency for toxaphene for new manufacturing sources of 0.1 µg/l, together with the mass emission standard set forth in the preceding paragraph, provides an ample margin of safety for aquatic and other organisms and consumers thereof (including humans) who may be affected by discharges by manufacturers of endrin.

The toxic pollutant effluent standards proposed by the Agency for toxaphene, as thus modified, fully comply with the requirements of section 307(a) of the Act, are technologically achievable, and are not likely to result in serious adverse economic impact to the industry or to the nation.

The toxic pollutant effluent standards proposed by the Agency for toxaphene, with the modifications set forth above, are fully supported by substantial evidence on the record as a whole. No further modification of the standards proposed by the Agency for toxaphene is justified "based upon a preponderance of evidence" adduced at the hearings, within the meaning of section 307(a)(2) of the Act, and such standards should be promulgated as proposed, with the exception of the modification of the mass emission standard set forth above.

6. In subsections (b)(1)(i)(B)(1) and (c)(1)(i)(B)(1) of §§ 129.100–129.103 as proposed, there was the following language setting forth the application of the standards to stormwater and other runoff:

> These standards or prohibitions apply to:
>
> * * * * *
>
> (B) All discharges from the manufacturing areas, loading and unloading areas, storage areas and other areas which are subject to direct contamination by (the toxic pollutant) as a result of the mnaufacturing process, including but not limited to stormwater and other runoff.

Subsection (ii) of each of those sections then provided as follows:

> These standards do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of (the toxic pollutant); or to stormwater runoff that exceeds that from the ten year 24-hour rainfall event.

For clarification, each of the subsections mentioned above should be amended by inserting after the words "stormwater and other runoff" the following language: "except as hereinafter provided in subsection (ii)".

Effective date: The amendments as hereinafter promulgated will become effective January 12, 1977. Due to the operation of § 129.8 as promulgated below, the compliance date for the standards promulgated below will be January 12, 1978.

Dated: December 30, 1976.

RUSSELL E. TRAIN,
Administrator.

Chapter I of Title 40, Code of Federal Regulations, is amended by revising Part 129 so as to provide as follows:

Subpart A—Toxic Pollutant Effluent Standards and Prohibitions

Sec.
129.1 Scope and purpose.
129.2 Definitions.
129.3 Abbreviations.
129.4 Toxic pollutants.
129.5 Compliance.
129.6 Adjustment of effluent standard for presence of toxic pollutant in the intake water.
129.7 Requirement and procedure for establishing a more stringent effluent limitation.
129.8 Compliance date.
129.9–129.99 [Reserved]
129.100 Aldrin/Dieldrin.
129.101 DDT, DDD and DDE.
129.102 Endrin.
129.103 Toxaphene.

AUTHORITY: Sec. 307, 308, and 501 of the Federal Water Pollution Control Act Amendments of 1972 (Pub. L. 92–500, 86 Stat. 816, 33 U.S.C. 1251 et seq.).

Subpart A—Toxic Pollutant Effluent Standards and Prohibitions

§ 129.1 Scope and Purpose.

(a) The provisions of this Subpart apply to owners or operators of specified facilities discharging into navigable waters.

(b) The effluent standards or prohibitions for toxic pollutants established in this Subpart shall be applicable to the sources and pollutants hereinafter set forth, and may be incorporated in any NPDES permit, modification or renewal thereof, in accordance with the provisions of this Subpart.

(c) The provisions of 40 CFR Parts 124 and 125 shall apply to any NPDES permit proceedings for any point source discharge containing any toxic pollutant for which a standard or prohibition is established under this Part.

§ 129.2 Definitions.

All terms not defined herein shall have the meaning given them in the Act or in 40 CFR Parts 124 or 125. As used in this Part, the term:

(a) "Act" means the Federal Water Pollution Control Act, as amended (Pub. L. 92–500, 86 Stat. 816 et seq., 33 U.S.C. 1251 et seq.). Specific references to sections within the Act will be according to Pub. L. 92–500 notation.

(b) "Administrator" means the Administrator of the Environmental Protection Agency or any employee of the Agency to whom the Administrator may by order delegate the authority to carry out his functions under section 307(a) of the Act, or any person who shall by operation of law be authorized to carry out such functions.

(c) "Effluent standard" means, for purposes of § 307, the equivalent of "effluent limitation" as that term is defined in section 502(11) of the Act with the exception that it does not include a schedule of compliance.

(d) "Prohibited" means that the constituent shall be absent in any discharge subject to these standards, as determined by any analytical method.

(e) "Permit" means a permit for the discharge of pollutants into navigable waters under the National Pollutant Discharge Elimination System established by section 402 of the Act and implemented in regulations in 40 CFR Parts 124 and 125.

(f) "Working day" means the hours during a calendar day in which a facility discharges effluents subject to this Part.

(g) "Ambient water criterion" means that concentration of a toxic pollutant in a navigable water that, based upon available data, will not result in adverse impact on important aquatic life, or on consumers of such aquatic life, after exposure of that aquatic life for periods of time exceeding 96 hours and continuing at least through one reproductive cycle; and will not result in a significant risk of adverse health effects in a large human population based on available information such as mammalian laboratory toxicity data, epidemiological studies of human occupational exposures, or human exposure data, or any other relevant data.

(h) "New Source" means any source discharging a toxic pollutant, the construction of which is commenced after proposal of an effluent standard or prohibition applicable to such source if such effluent standard or prohibition is thereafter promulgated in accordance with section 307.

(i) "Existing Source" means any source which is not a new source as defined above.

(j) "Source" means any building, structure, facility, or installation from which there is or may be the discharge of toxic pollutants designated as such by the Administration under section 307(a) (1) of the Act.

(k) "Owner or operator" means any person who owns, leases, operates, controls, or supervises a source as defined above.

(l) "Construction" means any placement, assembly, or installation of facilities or equipment (including contractual obligations to purchase such facilities or equipment) at the premises where such equipment will be used, including preparation work at such premises.

(m) "Manufacturer" means any establishment engaged in the mechanical or chemical transformation of materials or substances into new products including but not limited to the blending of materials such as pesticidal products, resins, or liquors.

(n) "Process Wastes" means any designated toxic pollutant, whether in wastewater or otherwise present, which is inherent to or unavoidably resulting from any manufacturing process, including that which comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product or waste product and is discharged into the navigable waters.

(o) "Air emissions" means the release or discharge of a toxic pollutant by an owner or operator into the ambient air either (1) by means of a stack or (2) as a fugitive dust, mist or vapor as a result inherent to the manufacturing or formulating process.

(p) "Fugitive dust, mist or vapor" means dust, mist or vapor containing a toxic pollutant regulated under this Part which is emitted from any source other than through a stack.

(q) "Stack" means any chimney, flue, conduit, or duct arranged to conduct emissions to the ambient air.

(r) "Ten year 24-hour rainfall event" means the maximum precipitation event with a probable recurrence interval of once in 10 years as defined by the National Weather Service in technical paper No. 40, "Rainfall Frequency Atlas of the United States," May 1961, and subsequent amendments or equivalent regional or State rainfall probability information developed therefrom.

(s) "State Director" means the chief administrative officer of a State or interstate water pollution control agency operating an approved HPDES permit program. In the event responsibility for water pollution control and enforcement is divided among two or more State or interstate agencies, the term "State Director" means the administrative officer authorized to perform the particular procedure to which reference is made.

§ 129.3 Abbreviations.

The abbreviations used in this Part represent the following terms:

lb=pound (or pounds)
g=gram
µg/l=micrograms per liter (1 one-millionth gram/liter)
kg=kilogram(s)
kkg=1000 kilogram(s)

§ 129.4 Toxic pollutants.

The following are the pollutants subject to regulation under the provisions of this subpart:

(a) Aldrin/Dieldrin—"Aldrin" means the compound aldrin as identified by the chemical name, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a - hexahydro - 1,4 - endo - 5, 8 - exo - dimethanonaphthalene; "Dieldrin" means the compound dieldrin as identified by the chemical name 1,2,3,4, 10,10-hexachloro - 6,7 - epoxy - 1,4,4a,5, 6, 7, 8, 8a - octahydro - 1,4-endo - 5,8-exo-dimethanonaphthalene.

(b) DDT—"DDT" means the compounds DDT, DDD, and DDE as identified by the chemical names: (DDT)-1,1, 1-trichloro-2,2 - bis(p - chlorophenyl) ethane and some o,p'-isomers; (DDD) or (TDE) - 1,1 - dichloro - 2,2 - bis(p-chlorophenyl) ethane and some o,p'-isomers; (DDE) - 1,1 - dichloro - 2,2-bis (p-chlorophenyl) ethylene.

(c) Endrin—"Endrin" means the compound endrin as identified by the chemical name 1,2,3,4,10,10-hexachloro-6,7-epoxq - 1,4,4a,5,6,7,8,8a - octahydro - 1,4-endo-5,8-endo-dimethanonaphthalene.

(d) Toxaphene—"Toxaphene" means a material consisting of technical grade chlorinated camphene having the approximate formula of $C_{10}H_{10}Cl_8$ and normally containing 67–69 percent chlorine by weight.

§ 129.5 Compliance.

(a)(1) Within 60 days from the date of promulgation of any toxic pollutant effluent standard or prohibition each owner or operator with a discharge subject to that standard or prohibition must notify the Regional Administrator (or State Director, if appropriate) of such discharge. Such notification shall include such information and follow such procedures as the Regional Administrator (or State Director, if appropriate) may require.

(2) Any owner or operator who does not have a discharge subject to any toxic pollutant effluent standard at the time of such promulgation but who thereafter commences or intends to commence any activity which would result in such a discharge shall first notify the Regional Administrator (or State Director, if appropriate) in the manner herein provided at least 60 days prior to any such discharge.

(b) Upon receipt of any application for issuance or reissuance of a permit or for a modification of an existing permit for a discharge subject to a toxic pollutant effluent standard or prohibition the permitting authority shall proceed thereon in accordance with 40 CFR Parts 124 or 125, whichever is applicable.

(c)(1) Every permit which contains limitations based upon a toxic pollutant effluent standard or prohibition under this Part is subject to revision following the completion of any proceeding revising such toxic pollutant effluent standard or prohibition regardless of the duration specified on the permit.

(2) For purposes of this section, all toxic pollutants for which standards are set under this Part are deemed to be injurious to human health within the meaning of section 402(k) of the Act unless otherwise specified in the standard established for any particular pollutant.

(d)(1) Upon the compliance date for any section 307(a) toxic pollutant effluent standard or prohibition, each owner or operator of a discharge subject to such standard or prohibition shall comply with such monitoring, sampling, recording, and reporting conditions as the Regional Administrator (or State Director, if appropriate) may require for that discharge. Notice of such conditions shall be provided in writing to the owner or operator.

(2) In addition to any conditions required pursuant to paragraph (d)(1) and to the extent not required in conditions contained in NPDES permits, within 60 days following the close of each calendar year each owner or operator of a discharge subject to any toxic standard or prohibition shall report to the Regional Administrator (or State Director, if appropriate) concerning the compliance fo such discharges. Such report shall include, as a minimum, information concerning (i) relevant identificatio nof the discharger such as name, location of facility, discharge points, receiving waters, and the industrial process or operation emitting the toxic pollutant; (ii) relevant conditions (pursuant to paragraph (d)(1) or to an NPDES permit) as to flow, section 307(a) toxic pollutant concentrations, and section 307(a) toxic pollutant mass emission rate; (iii) compliance by the disharger with such conditions.

(3) When samples collected for analysis are composited, such samples shall be composited in proportion to the flow at time of collection and preserved in compliance with requirements of the Regional Administrator (or State Director, if appropriate), but shall include at least five samples collected at approximately equal intervals throughout the working day.

(e)(1) Nothing in these regulations shall preclude a Regional Administrator from requiring in any permit a more stringent effluent limitation or standard pursuant to section 301(b)(1)(C) of the Act and implemented in 40 CFR 125.11 and other related provisions of 40 CFR Part 125.

(2) Nothing in these regulations shall preclude the Director of a State Water Pollution Control Agency or interstate agency operating a National Pollutant Discharge Elimination System Program which has been approved by the Administrator pursuant to section 402 of the Act from requiring in any permit a more stringent effluent limitation or standard pursuant to section 301(b)(1)(C) of the Act and implemented in 40 CFR 124.42 and other related provisions of 40 CFR Part 124.

(f) Any owner or operator of a facility which discharges a toxic pollutant to the navigable waters and to a publicly owned treatment system shall limit the summation of the mass emissions from both discharges to the less restrictive standard, either the direct discharge standard or the pretreatment standard; but in no case will this Subsection allow a discharge to the navigable waters greater than the toxic pollutant effluent standard established for a direct discharge to the navigable waters.

(g) In any permit hearing or other administrative proceeding relating to the implementation or enforcement of these standards, or any modification thereof, or in any judicial proceeding other than a petition for review of these standards pursuant to section 509(b)(1)(C) of the Act, the parties thereto may not contest the validity of any national standards established in this Part, or the ambient water criterion established herein for any toxic pollutant.

§ 129.6 Adjustment of effluent standard for presence of toxic pollutant in the intake water.

(a) Upon the request of the owner or operator of a facility discharging a pollutant subject to a toxic pollutant effluent standard or prohibition, the Regional Administrator (or State Director, if appropriate) shall give credit, and shall adjust the effluent standard(s) in such permit to reflect credit for the toxic pollutant(s) in the owner's or operator's water supply if (1) the source of the owner's or operator's water supply is the same body of water into which the discharge is made and if (2) it is demonstrated to the Regional Administrator (or State Director, if appropriate) that the toxic pollutant(s) present in the owner's or operator's intake water will not be removed by any wastewater treatment systems whose design capacity and operation were such as to reduce toxic pollutants to the levels required by the applicable toxic pollutant effluent standards in the absence of the toxic pollutant in the intake water.

(b) Effluent limitations established pursuant to this section shall be calculated on the basis of the amount of section 307(a) toxic pollutant(s) present in the water after any water supply treatment steps have been performed by or for the owner or operator.

(c) Any permit which includes toxic pollutant effluent limitations established pursuant to this section shall also contain conditions requiring the permittee to conduct additional monitoring in the manner and locations determined by the Regional Administrator (or State Director, if appropriate) for those toxic pollutants for which the toxic pollutant effluent standards have been adjusted.

§ 129.7 Requirement and procedure for establishing a more stringent effluent limitation.

(a) In exceptional cases (1) where the Regional Administrator (or State Director, if appropriate) determines that the ambient water criterion established in these standards is not being met or will not be met in the receiving water as a result of one or more discharges at levels allowed by these standards, and (2) where he further determines that this is resulting in or may cause or contribute to significant adverse effects on aquatic or other organisms usually or potentially present, or on human health, he may issue to an owner or operator a permit or a permit modification containing a toxic pollutant effluent limitation at a more stringent level than that required by the standard set forth in these regulations. Any such action shall be taken pursuant to the procedural provisions of 40 CFR Parts 124 and 125, as appropriate. In any proceeding in connection with such action the burden of proof and of going forward with evidence with regard to such more stringent effluent limitation shall be upon the Regional Administrator (or State Director, if appropriate) as the proponent of such more stringent effluent limitation.

(3) Evidence in such proceeding shall include at a minimum: an analysis using data and other information to demonstrate receiving water concentrations of the specified toxic pollutant, projections of the anticipated effects of the proposed modification on such receiving water concentrations, and the hydrologic and hydrographic characteristics of the receiving waters including the occurrence of dispersion of the effluent. Detailed specifications for presenting relevant information by any interested party may be prescribed in guidance documents published from time to time, whose availability will be announced in the FEDERAL REGISTER.

(b) Any effluent limitation in an NPDES permit which a State proposes to issue which is more stringent than the toxic pollutant effluent standards promulgated by the Administrator is subject to review by the Administrator under section 402(d) of the Act. The Administrator may approve or disapprove such limitation(s) or specify another limitation(s) upon review of any record of any proceedings held in connection with the permit issuance or modification and any other evidence available to him. If he takes no action within ninety days of his receipt of the notification of the action of the permit issuing authority and any record thereof, the action of the State permit issuing authority shall be deemed to be approved.

§ 129.8 Compliance date.

(a) The effluent standards or prohibitions set forth herein shall be complied with not later than one year after promulgation unless an earlier date is established by the Administrator for an industrial subcategory in the promulgation of the standards or prohibitions.

(b) Toxic pollutant effluent standards or prohibitions set forth herein shall become enforceable under sections 307(d) and 309 of the Act on the date established in subsection (a) regardless of proceedings in connection with the issuance of any NPDES permit or application therefor, or modification or renewal thereof.

§§ 129.9–129.99 [Reserved]

§ 129.100 Aldrin/Dieldrin.

(a) *Specialized definitions*—(1) "Aldrin/Dieldrin Manufacturer" means a manufacturer, excluding any source which is exclusively an aldrin/dieldrin formulator, who produces, prepares or processes technical aldrin or dieldrin or who uses aldrin or dieldrin as a material in the production, preparation or processing of another synthetic organic substance.

(2) "Aldrin/Dieldrin Formulator" means a person who produces, prepares or processes a formulated product comprising a mixture of either aldrin or dieldrin and inert materials or other diluents, into a product intended for application in any use registered under the Federal Insecticide, Fungicide and Rodenticide Act, as amended (7 U.S.C. 135, et seq.).

(3) The ambient water criterion for aldrin/dieldrin in navigable waters is 0.003 µg/l.

(b) *Aldrin/Dieldrin manufacturer.*—(1) *Applicability.*

(i) These standards or prohibitions apply to:

(A) all discharges of process wastes; and

(B) all discharges from the manufacturing areas, loading and unloading areas, storage areas and other areas which are subject to direct contamination by aldrin/dieldrin as a result of the manufacturing process, including but not limited to:

(*1*) Stormwater and other runoff except as hereinafter provided in subparagraph (ii); and

(*2*) Water used for routine cleanup or cleanup of spills.

(ii) These standards do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of aldrin/dieldrin; or to stormwater runoff that exceeds that from the ten year 24-hour rainfall event.

(2) *Analytical Method Acceptable.* Environmental Protection Agency method specified in 40 CFR Part 136, except that a 1-liter sample size is required to increase the analytical sensitivity.

(3) *Effluent Standard.*—(i) *Existing Sources.* Aldrin or dieldrin is prohibited in any discharge from any aldrin/dieldrin manufacturer.

(ii) *New Sources.* Aldrin or dieldrin is prohibited in any discharge from any aldrin/dieldrin manufacturer.

(c) *Aldrin/Dieldrin Formulator.*—(1) *Applicability.*

(i) These standards or prohibitions apply to:

(A) All discharges of process wastes; and

(B) All discharges from the formulating areas, loading and unloading areas, storage areas and other areas which are subject to direct contamination by aldrin/dieldrin as a result of the formulating process, including but not limited to:

(*1*) Stormwater and other runoff except as hereinafter provided in subparagraph (ii); and

(*2*) Water used for routine cleanup or cleanup of spills.

(ii) These standards do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of aldrin/dieldrin; or to stormwater runoff that exceeds that from the ten year 24-hour rainfall event.

(2) *Analytical Method Acceptable.* Environmental Protection Agency method specified in 40 CFR Part 136, except that a 1-liter sample size is required to increase the analytical sensitivity.

(3) *Effluent Standard.*—(i) *Existing Sources.* Aldrin or dieldrin is prohibited in any discharge from any aldrin/dieldrin formulator.

(ii) *New Sources.* Aldrin or dieldrin is prohibited in any discharge from any aldrin/dieldrin formulator.

§ 129.101 DDT, DDD and DDE.

(a) *Specialized Definitions.* (1) "DDT Manufacturer" means a manufacturer, excluding any source which is exclusively a DDT formulator, who produces, prepares or processes technical DDT, or who uses DDT as a material in the production, preparation or processing of another synthetic organic substance.

(2) "DDT Formulator" means a person who produces, prepares or processes a formulated product comprising a mixture of DDT and inert materials or other diluents into a product intended for application in any use registered under the Federal Insecticide, Fungicide and Rodenticide Act, as amended (7 U.S.C. 135, et seq.).

(3) The ambient water criterion for DDT in navigable waters is 0.001 µg/l.

(b) *DDT Manufacturer.*—(1) *Applicability.*

(i) These standards or prohibitions apply to:

(A) All discharges of process wastes; and

(B) All discharges from the manufacturing areas, loading and unloading areas, storage areas and other areas which are subject to direct contamination by DDT as a result of the manufacturing process, including but not limited to:

(*1*) Stormwater and other runoff except as hereinafter provided in subparagraph (ii); and

(*2*) Water used for routine cleanup or cleanup of spills.

(ii) These standards do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of DDT; or to stormwater runoff that exceeds that from the ten year 24-hour rainfall event.

(2) *Analytical Method Acceptable.*—Environmental Protection Agency method specified in 40 CFR Part 136, except that a 1-liter sample size is required to increase the analytical sensitivity.

(3) *Effluent Standard.*—(i) *Existing Sources.* DDT is prohibited in any discharge from any DDT manufacturer.

(ii) *New Sources.* DDT is prohibited in any discharge from any DDT manufacturer.

(c) *DDT Formulator.*—(1) *Applicability.* (i) These standards or prohibitions apply to:

(A) All discharges of process wastes; and

(B) All discharges from the formulating areas, loading and unloading areas, storage areas and other areas which are subject to direct contamination by DDT as a result of the formulating process, including but not limited to:

(*1*) Stormwater and other runoff except as hereinafter provided in subparagraph (ii); and

(*2*) Water used for routine cleanup or cleanup of spills.

(ii) These standards do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of DDT; or to stormwater runoff that exceeds that from the ten year 24-hour rainfall event.

(2) *Analytical Method Acceptable.* Environmental Protection Agency method specified in 40 CFR Part 136, except that a 1-liter sample size is required to increase the analytical sensitivity.

(3) *Effluent Standard.*—(i) *Existing Sources.* DDT is prohibited in any discharge from any DDT formulator.

(ii) *New Sources.* DDT is prohibited in any discharge from any DDT formulator.

§ 129.102 Endrin.

(a) *Specialized definitions.* (1) "Endrin Manufacturer" means a manufacturer, excluding any source which is exclusively an endrin formulator, who produces, prepares or processes technical endrin or who uses endrin as a material in the production, preparation or processing of another synthetic organic substance.

(2) "Endrin Formulator" means a person who produces, prepares or processes a formulated product comprising a mixture of endrin and inert materials or other diluents into a product intended for application in any use registered under the Federal Insecticide, Fungicide and Rodenticide Act, as amended (7 U.S.C. 135, et seq.).

(3) The ambient water criterion for endrin in navigable waters is 0.004 µg/l.

(b) *Endrin manufacturer*—(1) *Applicability.* (i) These standards or prohibitions apply to:

(A) All discharges of process wastes; and

(B) All discharges from the manufacturing areas, loading and unloading areas, storage areas and other areas which are subject to direct contamination by endrin as a result of the manufacturing process, including but not limited to: (*1*) Stormwater and other runoff except as hereinafter provided in subparagraph (ii); and (*2*) Water used for routine cleanup or cleanup of spills.

(ii) These standards do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of endrin; or to stormwater runoff that exceeds that from the ten year 24-hour rainfall event.

(2) *Analytical Method Acceptable*—Environmental Protection Agency method specified in 40 CFR Part 136.

(3) *Effluent Standard*—(i) *Existing Sources*—Discharges from an endrin manufacturer shall not contain endrin concentrations exceeding an average per working day of 1.5 µg/l calculated over any calendar month; and shall not exceed a monthly average daily loading of 0.0006 kg/kkg of endrin produced; and shall not exceed 7.5 µg/l in a sample(s) representing any working day.

(ii) *New Sources*—Discharges from an endrin manufacturer shall not contain endrin concentrations exceeding an average per working day of 0.1 µg/l calculated over any calendar month; and shall not exceed a monthly average daily loading of 0.00004 kg/kkg of endrin produced; and shall not exceed 0.5 µg/l in a sample(s) representing any working day.

(iii) *Mass Emission Standard During Shutdown of Production*—In computing the allowable monthly average daily loading figure required under the preceding subparagraphs (i) and (ii), for any calendar month for which there is no endrin being manufactured at any plant or facility which normally contributes to the discharge which is subject to these standards, the applicable production value shall be deemed to be the average monthly production level for the most recent preceding 360 days of actual operation of the plant or facility.

(c) *Endrin Formulator*—(1) *Applicability.* (i) These standards or prohibitions apply to:

(A) All discharges of process wastes; and

(B) All discharges from the formulating areas, loading and unloading areas, storage areas and other areas which are subject to direct contamination by endrin as a result of the formulating process, including but not limited to: (*1*) Stormwater and other runoff except as hereinafter provided in subparagraph (ii); and (*2*) Water used for routine cleanup or cleanup of spills.

(ii) These standards do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of endrin; or to storm-water runoff that exceeds that from the ten year 24-hour rainfall event.

(2) *Analytical Method Acceptable*—Environmental Protection Agency method specified in 40 CFR Part 136, except that a 1-liter sample size is required to increase the analytical sensitivity.

(3) *Effluent Standard*—(i) *Existing Sources*—Endrin is prohibited in any discharge from any endrin formulator.

(ii) New Sources—Endrin is prohibited in any discharge from any endrin formulator.

(d) The standards set forth in this Section shall apply to the total combined weight or concentration of endrin, excluding any associated element or compound.

§ 129.103 Toxaphene.

(a) *Specialized definitions.* (1) "Toxaphene Manufacturer" means a manufacturer, excluding any source which is exclusively a toxaphene formulator, who produces, prepares or processes toxaphene or who uses toxaphene as a material in the production, preparation or processing of another synthetic organic substance.

(2) "Toxaphene Formulator" means a person who produces, prepares or processes a formulated product comprising a mixture of toxaphene and inert materials or other diluents into a product intended for application in any use registered under the Federal Insecticide, Fungicide and Rodenticide Act, as amended (7 U.S.C. 135, *et seq.*).

(3) The ambient water criterion for toxaphene in navigable waters is 0.005 µg/l.

(b) *Toxaphene manufacturer*—(1) *Applicability.* (i) These standards or prohibitions apply to:

(A) All discharges of process wastes; and

(B) All discharges from the manufacturing areas, loading and unloading areas, storage areas and other areas which are subject to direct contamination by toxaphene as a result of the manufacturing process, including but not limited to: (*1*) Stormwater and other runoff except as hereinafter provided in subparagraph (ii); and (*2*) Water used for routine cleanup or cleanup of spills.

(ii) These standards do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of toxaphene; or to stormwater runoff that exceeds that from the ten year 24-hour rainfall event.

(2) *Analytical Method Acceptable*—Environmental Protection Agency method specified in 40 CFR Part 136.

(3) *Effluent Standard*—(i) *Existing Sources*—Discharges from a toxaphene manufacturer shall not contain toxaphene concentrations exceeding an average per working day of 1.5 µg/l calculated over any calendar month; and shall not exceed a monthly average daily loading of 0.00003 kg/kkg of toxaphene produced, and shall not exceed 7.5 µg/l in a sample(s) representing any working day.

(ii) *New Sources*—Discharges from a toxaphene manufacturer shall not contain toxaphene concentrations exceeding an average per working day of 0.1 µg/l calculated over any calendar month; and shall not exceed a monthly average daily loading of 0.000002 kg/kkg of toxaphene produced, and shall not exceed 0.5 µ/l in a sample(s) representing any working day.

(iii) *Mass Emission During Shutdown of Production*—In computing the allowable monthly average daily loading figure required under the preceding subparagraphs (i) and (ii), for any calendar month for which there is no toxaphene being manufactured at any plant or facility which normally contributes to the discharge which is subject to these standards, the applicable production value shall be deemed to be the average monthly production level for the most recent preceding 360 days of actual operation of the plant or facility.

(c) *Toxaphene Formulator*—(1) *Applicability.* (i) These standards or prohibitions apply to:

(A) All discharges of process wastes; and

(B) All discharges from the formulating areas, loading and unloading areas, storage areas and other areas which are subject to direct contamination by toxaphene as a result of the formulating process, including but not limited to: (*1*) Stormwater and other runoff except as hereinafter provided in subparagraph (ii); and (*2*) Water used for routine cleanup or cleanup of spills.

(ii) These standards do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of toxaphene; or to stormwater runoff that exceeds that from the ten year 24-hour rainfall event.

(2) *Analytical Method Acceptable*—Environmental Protection Agency method specified in 40 CFR Part 136, except that a 1-liter sample size is required to increase the analytical sensitivity.

(3) *Effluent Standards*—(i) *Existing Sources*—Toxaphene is prohibited in any discharge from any toxaphene formulator.

(ii) *New Sources*—Toxaphene is prohibited in any discharge from any toxaphene formulator.

(d) The standards set forth in this Section shall apply to the total combined weight or concentration of toxaphene, excluding any associated element or compound.

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[FRL 669-1]

PART 129—TOXIC POLLUTANT EFFLUENT STANDARDS

Standards for Benzidine; Final Decision

This is a rulemaking proceeding under section 307(a) of the Federal Water Pollution Control Act, as amended (the "Act"), 33 U.S.C. 1251 et seq. On June 30, 1976, the Environmental Protection Agency (the "Agency") proposed toxic pollutant effluent standards for benzidine pursuant to section 307(a)(2) of the Act. (41 FR 27012)

Because the deadline for this decison is December 30, 1976, I have determined in accordance with 40 CFR 104.14(c) that the preparation and filing of a tentative decision and related procedures pursuant to 40 CFR 104.14(b) should be omitted.

Timely objections to the proposed standards were received from the American Paper Institute, Inc. ("API") and the Benzidine Task Force of the Synthetic Organic Chemical Manufacturers Association ("SOCMA") and they were made parties to the proceeding in accordance with 40 CFR 104.3(a).

In addition, in accordance with 40 CFR 104.3(d), written comments were received by the Hearing Clerk from the following interested persons and were made part of the record:

American Cyanamid Company.
Natural Resources Defense Council, Inc.
Department of Environmental Conservation of the State of New York.
Department of Natural Resources of the State of Michigan.
Ford Motor Company.

In accordance with 40 CFR 104.4, when the proposed standards for benzidine were published in the FEDERAL REGISTER, the Agency also published a preamble thereto which included a description of the proposed standards, relevant background information, and a statement of the basis and purpose of the proposed standards. The regulations as proposed would establish effluent standards for all manufacturers of benzidine and benzidine-based dyes and the principal applicators or users of benzidine-based dyes, who discharge directly into the navigable waters. Standards were proposed for both existing and new sources. The principal applicator categories, and those which are covered in the Agency's standards, are manufacturers of paper goods, leather goods, and textile goods who use benzidine-based dyes in their processes.

As noted in the preamble to the proposed standards, the Agency identified three manufacturers of benzidine and benzidine-based dyes, Allied Chemical Company, GAF Corp., and Fabricolor, Inc. There are in addition numerous users of benzidine-based dyes in each of the three industrial categories noted above.

The statement of basis and purpose incorporated by reference the Agency's Criteria Document for Benzidine, which sets forth the relevant data concerning the toxicity, persistence, degradability, bioaccumulation, and related factors required by the Act to be considered by the Agency in setting toxic pollutant effluent standards under section 307(a). The principal findings and conclusions of this document are set forth in the preamble to the Notice of the Proposed Standards (41 FR 27014–27015). The numerous articles, reports, and other materials relied upon by the Agency in preparing this document were made publicly available at the time of proposal of the standards and were admitted into evidence.

In order to assist the Agency in gathering information concerning the present levels of discharge within the affected industries, as well as the various control technologies in practice or otherwise available to control the discharges of benzidine, the Agency engaged as a contractor Thomas M. Keinath, Ph.D., a recognized and highly qualified expert on wastewater treatment technology. His report, "Benzidine: Wastewater Treatment Technology", was also incorporated by reference and summarized in the Notice of Proposed Rulemaking (41 FR at 27013–27016). That report, as well as the references cited therein, were admitted into evidence at the hearing.

The background of the proposed standards, set forth at 41 FR 27012–27013, may be briefly summarized as follows. On July 6, 1973, the Agency published in the FEDERAL REGISTER a proposed list of nine toxic pollutants pursuant to section 307(a) of the Act (38 FR 18044). The nine substances were aldrin/dieldrin, benzidine, cadmium, cyanide, DDT (DDD, DDE), endrin, mercury, polychlorinated biphenyls and toxaphene. Following the receipt of public comments, the list was promulgated as proposed on September 7, 1973, together with a discussion of the Agency's selection criteria and responses to comments received on the proposed list (38 FR 24342 et seq.).

On December 23, 1973, the Agency proposed toxic pollutant effluent standards for each of these nine substances, together with a summary of the factors considered in setting the standards, and a list of point source categories of discharges proposed for coverage (38 FR 35388 et seq.). Although a hearing was held in early 1974 on those proposed standards, the Agency determined at the conclusion of the hearing that the record did not contain sufficient evidence on which to promulgate responsible and defensible standards for any of the substances. Accordingly, the Agency decided to gather additional data and repropose the standards, supported by an expanded data base. The present rulemaking therefore supersedes the proposal of December 27, 1973.

On June 10, 1976, the Agency proposed toxic pollutant effluent standards for aldrin/dieldrin, DDT (DDD, DDE), endrin, and toxaphene (41 FR 23576). Along with the proposed standards for those substances, the Agency proposed general implementing regulations, applicable to all standards issued under section 307(a) (41 FR 23592–23594, §§ 129.1–129.8). Toxic pollutant effluent standards for those four substances were promulgated along with implementing regulations, in my Final Decision on Toxic Pollutant Effluent Standards for Aldrin/Dieldrin, etc., dated December 30, 1976, 41 FR ______. Reference is hereby made to that Decision for a discussion of the general implementing regulations and the Agency's interpretation of section 307(a) of the Act. The general implementing regulations, as promulgated on December 30, 1976, are applicable to standards established hereunder for benzidine.

THE PROPOSED STANDARDS

The Criteria Document for Benzidine sets forth the relevant data on toxicity to aquatic and other organisms. A standard scientific method for measuring the toxicity of a pollutant is to determine the concentration of the pollutant in water which will kill 50 percent of the exposed population over a 96-hour period. This concentration is referred to as the 96-hour TL 50, or 96-hour LC 50, of the pollutant. Ninety-six hour TL 50 values from static bioassays with benzidine have ranged from 2.5 milligrams per liter (mg/l) for the red shiner to 20 mg/l for the fathead minnow. Benzidine has been detected in the Sumida River in Tokyo, Japan, at concentration of up to 233 micrograms per liter (µg/l), but has not been found in navigable waters in the United States, nor has it been found in drinking water supplies.

With respect to bioaccumulation, the highest bioaccumulation rate with respect to residues reported for benzidine has been for bluegills, which have been shown to bioaccumulate residues to a factor of 44 times the ambient water concentration.

Use of a conservative standard application factor of 0.01 as recommended by the National Academy of Sciences for the regulation of toxic pollutants, as applied to the 96-hour TL 50 of the most sensitive species tested, results in a level of 25 µg/l as an ambient water criterion which would protect aquatic life. However, of greater concern than toxicity to aquatic organisms are the human health effects of benzidine. Benzidine has been conclusively identified as a human carcinogen, primarily inducing cancer of the bladder. Although historically the principal exposure route to humans has been through occupational exposure, numerous facilities discharge effluents containing benzidine, thus producing the potential for exposure of human beings through contact or through ingestion of water or aquatic organisms. Because benzidine does not appear to be persistent in the water column, and does not appear to greatly bioaccumulate in aquatic organisms, the principal objective of the agency in establishing an ambient water criterion has been to provide protection for human health, recognizing that any number below 25 μg/l would in turn be protective of aquatic organisms.

Because neither epidemiological nor other human dose-response data exist, an ambient water quality level protective of human health for benzidine was derived with the assistance of mathematical low-dose risk extrapolation modeling. (The extrapolations, which utilized the so-called "one hit" and Mantel-Bryan approaches, are set forth in Appendix 1 to the Benzidine Criteria Document.) It was estimated that the levels of benzidine likely to produce a risk of no more than one tumor per million people exposed to benzidine over a lifetime would range from 0.05 μg/l to 0.8 μg/l, depending upon which of the data sets is used and which extrapolation method is employed. Calculations based upon a risk of one tumor per 500,000 people exposed, or 10,000,000 exposed, do not substantially change this range.

These extrapolation methods are inherently imprecise, and were not therefore the only factor considered in setting the criteria number. They were used solely to furnish some indication of relationship between exposure levels and potential risks. Such methods must be used carefully and in coordination with all of the data available in establishing protective criteria. Moreover, the figures are likely to be over-protective because the extrapolation assumes a continuing lifetime exposure to two liters of water each day containing the calculated benzidine concentration. The use of this type of extrapolation modeling is still in its early stages, and was used by the Agency for general guidance to indicate a range of risks which might be associated with various exposure levels (see In Re: "Velsicol Chemical Corporation, et al.," FIFRA Docket No. 384, Decision of the Administrator on the Suspension of Heptachlor-Chlordane at p. 28–29 (December 24, 1975)).

Because the data indicate that benzidine does not persist in the water column following discharge and to date has not been detected in the aquatic environment of the United States, and considering the inherent limitations of the low-dose extrapolation approach discussed above, the Agency decided that it would not be necessary to set a criterion at the lower level (0.05 μg/l) of the range indicated by the extrapolation modeling. Considering the general range indicated by that approach, and the lack of actual direct human exposure from water, the Agency proposed an ambient water criterion of 0.1 μg/l. This level is approximately in the middle of the range. The data set forth in the Agency's statement of basis and purpose indicate that an ambient water criterion at this level will provide an ample margin of safety for human health as well as for aquatic organisms, consistent with the statutory purposes of section 307(a).

In translating the proposed ambient water criterion into an "end-of-pipe" effluent standard, the Agency considered not only the risks of exposure but the behavior of benzidine in the aquatic environment following discharge. (See discussion in preamble to proposed standards, 41 FR 27016–27017.) In addition to benzidine's apparent lack of persistence in the water column, the actual concentration of any substance from a point source does not normally remain in the ambient waters at the same levels of discharge. In fact, for the typical discharge situation, the effluent disperses following discharge and becomes greatly diluted. The area of dilution is often referred to as a "mixing zone" and will vary in size and shape from one body of water to the next. The result of this phenomenon is that the pollutant concentration becomes greatly diluted in the receiving water and may not even be detectable. In most cases, therefore, an effluent standard set at a concentration which is considerably greater than that desired in the ambient water will nevertheless result in achievement of the concentration desired in the ambient water criterion, following dispersion in the mixing zone area.

To deal with situations where the receiving water conditions provide insufficient dispersion and dilution, or a water use exists in such close proximity to a discharge that removal through natural processes is insufficient to provide the ample margin of safety required by the Act, a mechanism in the nature of a "tightening variance" clause was adopted in § 129.7 of the general implementing regulations. This variance clause allows establishment of a more stringent limitation on effluents where the particular characteristics of the local receiving waters so warrant.

Taking into consideration the expected dilution and dispersion, the Agency proposed the toxic pollutant effluent standard for existing and new benzidine manufacturers as follows:

> Discharges from a benzidine manufacturer shall not contain benzidine concentrations exceeding an average per working day of 10 micrograms per liter calculated over any calendar month, and shall not exceed a monthly average daily loading of 0.130 kg/kkg of benzidine produced, and shall not exceed 50 micrograms per liter in a sample(s) representing any working day.

The expected 100 to 1 dilution factor should be readily achievable in most if not all instances. In the event that it is not achieved within the bounds of a reasonable mixing zone, the "tightening variance" clause described above is available to assure the provision of an ample margin of safety, as required by section 307(a) of the Act.

As set forth in the Notice of Proposed Rulemaking (41 FR at 27016), the mass emission standard of 0.130 kilograms per 1,000 kilograms of benzidine produced is based upon the performance of existing plants, and is intended to prevent a manufacturer from discharging larger quantities of benzidine to the environment than under normal careful operations and using dilution alone to comply with the standards.

For users of benzidine-based dyes in the dying of textiles, leather, or paper, the Agency proposed the following standards for existing and new sources:

> Discharges from benzidine-based dye applicators shall not contain benzidine concentrations exceeding an average per working day of 10 micrograms per liter; and shall not exceed 25 micrograms per liter in a sample(s) or calculation(s) representing any working day.

Greater control available to the applicators (including the use of extended aeration or aerated lagoons, as well as the ability to control releases) allows applicators not only to comply with an average standard of 10 μg/l but also to contain any concentration excursions within the bounds of 25 μg/l for any working day. Because the amounts of benzidine in the waste of the applicators are inherently quite small, no mass emission or weight loading limitation is necessary for these categories.

The analytical method acceptable was prescribed as that set forth in 40 CFR Part 136, which has been amended effective April 1, 1977 to provide for the "chloramine-T" method (41 FR 52781, 52785). (Under § 129.8 of the general regulations the compliance date for the benzidine regulations will be December 30, 1977.) For the applicators, an alternative method is allowed, specifically the mass balance monitoring approach, which requires the calculation of the benzidine concentration by dividing the total benzidine contained in dyes used during a working day (as certified on the product label by the manufacturer) by the total quantity of water discharged during the working day. This is set forth in § 129.104(c)(2), as proposed, which provides as follows:

> (2) *Analytical method acceptable.* (i) Environmental Protection Agency method specified in 40 CFR Part 136; or (ii) Mass balance monitoring approach which requires the calculation of the benzidine concentration by dividing the total benzidine contained in dyes used during a working day (as certified on the label by the manufacturer) by the total quantity of water discharged during the working day.
>
> NOTE.—The Regional Administrator (or State Director, if appropriate) may rely entirely upon the method specified in 40 CFR Part 136 in analyses performed by him for enforcement purposes. (41 FR 27017)

In that section as proposed, the amount of the total benzidine contained in dyes used during a working day would be determined by reference to the amount "certified on the label by the manufacturer." Although it is presently standard practice among manufacturers to make such a certification on the label, this may not remain the practice forever. Because some form of written certification will be required for monitoring and enforcement purposes, the words "on the label" in § 129.104(c) have been deleted and replaced with the words "in writing," so as to provide for an alternate means of certification in the event that the practice of certifying on the label is discontinued.

Because of the mass balance approach tends to yield high results, only the chloramine-T method will be used for enforcement purposes. For this reason the word "may" in the Comment to § 129.104(c)(2) should be changed to "shall."

Section 129.104(c)(2) as thus revised provides as follows:

> (2) *Analytical method acceptable*. (i) Environmental Protection Agency method specified in 40 CFR Part 136; or (ii) Mass balance monitoring approach which requires the calculation of the benzidine concentration by dividing the total benzidine contained in dyes used during a working day (as certified in writing by the manufacturer) by the total quantity of water discharged during the working day.
>
> COMMENT.—The Regional Administrator (or State Director, if appropriate) shall rely entirely upon the method specified in 40 CFR Part 136 in analyses performed by him for enforcement purposes.

Apart from the need for the foregoing technical modification no evidence was introduced at the hearing which indicates either that the proposed standards do not fully comply with the requirements of section 307(a), or that a modification to the standards as proposed would be warranted "based upon a preponderance of evidence" adduced at the hearing under section 307(a)(2). Accordingly, pursuant to that section, the standards are hereby promulgated as proposed, with the modifications to § 129.104(a)(2) noted.

SOCMA submitted its objections on July 23, 1976. API submitted its objections on July 26, 1976. Both objecting parties were given ample opportunity to supplement their objections with whatever evidence they sought to introduce and present at the proceeding. API submitted in support of its objections the Affidavit of Dr. Nicholas J. Lardieri and SOCMA submitted the Affidavit of Edward Modell.

EPA submitted the Affidavit of Dr. Leonard J. Guarraia, who is the Chief of the Criteria Branch of the Criteria and Standards Division of EPA's Office of Water Planning and Standards. Dr. Guarraia was responsible for the preparation of the EPA Criteria Document for benzidine. EPA also submitted the Affidavit of Dr. Thomas M. Keinath, whose report has previously been described. Both of these witnesses were made available for cross-examination, but neither of the objecting parties chose to cross-examine them, and accordingly their affidavits were submitted into evidence without objection.

The SOCMA objections and comments on page 1 recognize the soundness of the Agency's proposed standards in the following language:

> The proposed rulemaking is in general very well designed to achieve the purposes of section 307(a) of the Federal Water Pollution Control Act Amendments of 1972, Pub. L. 92-500. This is particularly welcome because a human carcinogen is involved and the proposed limitations on effluent discharges are carefully derived from the best presently available data and prudent, indeed quite conservative, methods of analysis of risks * * *.

SOCMA requested a monthly average for benzidine-based dye applicators of 20 μg/l rather than 10 μg/l economic grounds. SOCMA indicated further that some dye applicators might exceed this limit on a mass balance monitoring approach, but not on an analytical chloramine-T approach. However, as indicated above only chloramine-T tests will be used for enforcement purposes. If an applicator has reason to believe his effluent concentrations approach or exceed the standard, he should utilize chloramine-T measuring and monitoring technology to assure compliance.

SOCMA also requested an amendment of the standards to provide that where a discharger's waste stream is analyzed and no detectable quantity is found, the benzidine content should be deemed to be zero for monthly averaging purposes. The reason for this request is that some enforcement personnel would regard a non-detectable quantity as indicating the presence of benzidine up to the detectable limit. Since the limit of detectability (2–5 μg/l) is close to the discharge limit (10 μg/l), this practice could result in an apparent violation where in fact there was none. The Agency's practice is to treat a non-detectable amount as zero and hence no amendment is necessary.

API initially objected to the lack of adequate time to prepare its objections. This objection was cured by the allowance of the filing of supplemental data by API on August 9, 1976, which was further supplemented by their Affidavit of Nicholas J. Lardieri admitted as evidence on September 30, 1976.

API also objected to an alleged lack of adequate consultation by EPA with the industry and other government agencies. The Agency believes it adequately consulted with other government agencies concerning the proposed regulations prior to their proposal. With respect to industry, this objection would now appear to be moot since API has been afforded ample opportunity in the scope of these hearings to present to the Agency whatever evidence and information it wished.

API objected to the proposed ambient water criterion of 0.1 μg/l, asserting that the low-dose risk extrapolation models used by the Agency were overly conservative. No further evidence was introduced to support their objection, however, and no evidence was introduced on which the Agency could reasonably conclude that more relaxed standards than those proposed would provide an ample margin of safety for aquatic organisms and consumers thereof, including man. Accordingly, there appears no basis for modifying the Agency's proposed ambient water criterion.

As indicated in both the Supplemental Data on Benzidine Based Dye Usage in the Pulp and Paper Industry filed by API on August 9 and the Affidavit of Nicholas Lardieri, API's principal objection to the proposed benzidine toxic effluent standards is that the paper goods manufacturing industry uses relatively insignificant amounts of benzidine-based dyes, and thus should not be included among the industrial facilities subject to the proposed benzidine regulations. (SOCMA made the same objection.) Although the original objection apparently sought a higher effluent standard based primarily upon effects on aquatic organisms, this was not followed up in either of the subsequent submissions, and indeed would appear to overlook the need for protection against the possible cancer risk to human health. The Supplemental Data and the Affidavit of Dr. Lardieri indicate that the discharges of benzidine by representative plants in the paper products industry are well below the maximum standards proposed by EPA. API argues that because its plants are already in compliance, they should not be subjected to the cost of monitoring.

EPA believes that the cost of mass balance monitoring is quite small, and no evidence was introduced by API at the hearings to the contrary. Whatever minimal costs of monitoring there may be would appear to be justified in order to insure that the industry does in fact continue to comply with the Agency's toxic pollutant effluent standards for benzidine, and thereby assures that the requisite protection of human health from exposure to this proven carcinogen is being provided.

American Cyanamid Company recommended express use of the chloramine-T method for analysis, noting that the "mass balance analysis" monitoring approach often may overstate the amount of benzidine present in a discharge. As noted previously, the chloramine-T method has been adopted as the official method and will be used for enforcement purposes. In view of the cost of acquiring chloramine-T monitoring equipment, and because the mass balance method tends to overstate the amount of benzidine present, it would appear that demonstration of compliance using the mass balance method is sufficient.

The New York State Department of Environmental Conservation recommended that pretreatment standards be established for facilities discharging to publicly owned treatment works (POTWs). As stated in the Notice of Proposed Rulemaking on June 30, 1976, the Agency intends to develop pretreatment standards for discharges of benzidine to POTWs in due course.

The New York State Department of Environmental Conservation also stated that the standards were unreasonably low, and went beyond what is necessary to provide an ample margin of safety for protection of aquatic organisms. They further stated that there was insufficient evidence of any human exposure resulting from point source discharges into the water to warrant setting a standard as low as that proposed for the protection of human health. The Natural Resources Defense Council ("NRDC"), on the other hand, urged that the standards are not low enough, and that for a proven carcinogen the standards should be zero. NRDC submitted no evidence that the

Agency's proposed standards would result in any significant risk of harm to human health, or that measurable additional benefit would be obtained by establishing a zero discharge. In my Final Decision on Toxic Pollutant Effluent Standards for Aldrin/Dieldrin, etc., dated December 30, 1976, I explained in detail the manner in which the Agency evaluates evidence of carcinogenicity and discussed why zero discharge of toxic substances known to be carcinogens is not necessarily required under section 307(a). For the reasons stated there and hereinabove, it would appear that the standards proposed by the Agency will provide an ample margin of safety for human health, and that there is no significant or material evidence which would warrant a modification of that standard under section 307(a)(2).

NRDC also asserted that the Agency should not consider technology or economic impact in setting a standard under section 307(a), and further noted that the present standard is not even based upon the very best technology available. It is true that the Agency gave some consideration to the technological feasibility of complying with its proposed standards. However, the standard proposed for benzidine is fully supportable and reasonable apart from any consideration of technological feasibility or economic impact. The fact that technology may be available to achieve additional pollutant reductions at a given cost does not necessarily mean that the Agency must require installation of that technology when the available data indicate that the "ample margin of safety" required by section 307(a) may be achievable without the implementation of that technology. To put it somewhat differently, if the degree of protection required by the Act can be achieved through promulgation of a particular standard, there is no further legal requirement that more stringent standards be promulgated, just because technology may exist to achieve them. Nor is the Agency required to set standards that furnish an absolute guarantee of safety as distinct from "an ample margin of safety."

NRDC also claimed that the "tightening variance" procedure set forth in § 129.7 of the general implementing regulations proposed on June 10, 1976, is inadequate to assure an ample margin of safety. NRDC offered no evidence to support this proposition and no argument indicating that the proposed variance is legally insufficient. There is no reason to believe that the tightening variance clause will not be utilized in any appropriate case in order to assure compliance with the law, and therefore there appears no justification for modifying this procedure.

NRDC also asserted that the scope of point source discharge coverage was inadequate. As stated in the preamble portion of the Notice of Proposed Rulemaking on June 30, 1976, the proposed standards cover all of the manufacturers of benzidine and benzidine-based dyes. They also cover all known significant users or applicators. There may or may not be other significant discharges of benzidine into the navigable waters, but to the Agency's knowledge they have not been identified. The designation of the point source categories covered by the proposed standards is properly within the Administrator's discretion pursuant to section 307(a)(5), which states that "when proposing or promulgating any effluent standard (or prohibition) under this section, the Administrator shall designate the category or categories of sources to which the effluent standard (or prohibition) shall apply." It is believed that the proposed coverage includes all significant point source discharges of benzidine into the navigable waters.

Ford Motor Company opposed the setting of national standards, and urged the setting of standards on a site-specific basis. This suggestion must be rejected as contrary to the mandate of section 307(a), which requires the setting of national standards. Variations in particular receiving water conditions have been taken into account by the Agency in its recognition of the mixing zone phenomenon, coupled with the "tightening variance" clause which will be applied on a site-specific basis to assure compliance with the mandate of section 307(a) that an ample margin of safety be provided.

Ford also recommended deletion of the ambient water criterion, since this is not required under section 307(a) and would be more properly issued as a recommendation pursuant to section 304(a). It is true that the Agency publishes recommended water quality criteria under section 304(a), and it is also true that the establishment of an ambient water criterian is not legally required under section 307(a). However, because toxicity is largely a function of concentration of a pollutant in ambient waters, the Agency has decided that the establishment of toxic pollutant effluent standards is a helpful step in relating the required "end-of-pipe" effluent standard to the effects which are to be minimized or avoided. In addition, the establishment of the ambient water criterion will enable the Agency to achieve some degree of site-specific flexibility in its standards by assuming a reasonable degree of dispersion and dilution, while at the same time retaining the power under the "tightening variance" clause to assure that more stringent limitations are applied where necessary to insure the provision of an ample margin of safety for those organisms for whose protection section 307(a) was intended.

CONCLUSION

Substantial evidence on the record taken as a whole strongly supports promulgation of the standards as proposed by the Agency. Moreover, there does not appear to be any need or justification for any modification of the toxic pollutant standards proposed for benzidine "based upon a preponderance of evidence" adduced at the hearings, except for the modification of § 129.104(c)(2) discussed above relating to certification by the manufacturer and use of the chloramine-T method for enforcement purposes.

Also, in subsections (b)(1)(i)(B)(1) and (c)(1)(i)(B)(1) of § 129.104 as proposed, there was the following language setting forth the application of the standards to stormwater and other runoff:

> These standards or prohibitions apply to:
>
> * * * * *
>
> (B) All discharges from the manufacturing areas, loading and unloading areas, storage areas and other areas which are subject to direct contamination by denzidine as a result of the manufacturing process, including but not limited to stormwater and other runoff.

Subsection (ii) of each of those sections then provided as follows:

> These standards do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of benzidine; or to stormwater runoff that exceeds that from the ten year 24-hour rainfall event.

For clarification, each of the subsections mentioned above should be amended by inserting after the words "stormwater and other runoff" the following language: "except as hereinafter provided in subsection (ii)".

Accordingly, the standards are hereby adopted in the form set forth below.

Dated: December 30, 1976.

Effective date: The amendment as hereinafter promulgated will become effective January 12, 1977. Due to the operation of § 129.8, the compliance date for the standards promulgated below will be January 12, 1978.

RUSSELL E. TRAIN,
Administrator.

1. In 40 CFR Part 129, Subpart A (as proposed at 41 FR 23576 (June 10, 1976)), is amended by adding a new entry to the table of contents to read as follows:

Sec.
129.104 Benzidine.

2. Subpart A of Part 129 is further amended by adding a new paragraph (e) to § 129.4 to read as follows:

§ 129.4 Toxic pollutants.

* * * * *

(e) Benzidine—"Benzidine" means the compound benzidine and its salts as identified by the chemical name 4,4'-diaminobiphenyl.

3. Subpart A of Part 129 is further amended by adding a new § 129.104 to read as follows:

§ 129.104 Benzidine.

(a) *Specialized definitions.* (1) "Benzidine Manufacturer" means a manufacturer who produces benzidine or who produces benzidine as an intermediate product in the manufacture of dyes commonly used for textile, leather and paper dyeing.

(2) "Benzidine-Based Dye Applicator" means an owner or operator who uses benzidine-based dyes in the dyeing of textiles, leather or paper.

(3) The ambient water criterion for benzidine in navigable waters is 0.1 µg/1.

(b) *Benzidine manufacturer*—(1) *Applicability*. (i) These standards apply to:

(A) All discharges into the navigable waters of process wastes, and

(B) All discharges into the navigable waters of wastes containing benzidine from the manufacturing areas, loading and unloading areas, storage areas, and other areas subject to direct contamination by benzidine or benzidine-containing product as a result of the manufacturing process, including but not limited to:

(*1*) Stormwater and other runoff except as hereinafter provided in paragraph (b)(1)(ii) of this section and

(*2*) Water used for routine cleanup or cleanup of spills.

(ii) These standards do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of benzidine; or to stormwater runoff that exceeds that from the ten year 24-hour rainfall event.

(2) *Analytical method acceptable*—Environmental Protection Agency method specified in 40 CFR Part 136.

(3) *Effluent standards*—(i) *Existing sources*—Discharges from a benzidine manufacturer shall not contain benzidine concentrations exceeding an average per working day of 10 μg/l calculated over any calendar month, and shall not exceed a monthly average daily loading of 0.130 kg/kkg of benzidine produced, and shall not exceed 50 μg/l in a sample(s) representing any working day.

(ii) *New sources*—Discharges from a benzidine manufacturer shall not contain benzidine concentrations exceeding an average per working day of 10 μg/l calculated over any calendar month, and shall not exceed a monthly average daily loading of 0.130 kg/kkg of benzidine produced, and shall not exceed 50 μg/l in a sample(s) representing any working day.

(4) The standards set forth in this paragraph (b) shall apply to the total combined weight or concentration of benzidine, excluding any associated element or compound.

(c) *Benzidine-based Dye Applicators*—(1) *Applicability*. (i) These standards apply to:

(A) All discharges into the navigable waters of process wastes, and

(B) All discharges into the navigable waters of wastes containing benzidine from the manufacturing areas, loading and unloading areas, storage areas, and other areas subject to direct contamination by benzidine or benzidine-containing product as a result of the manufacturing process, including but not limited to:

(*1*) Stormwater and other runoff except as hereinafter provided in paragraph (c)(1)(ii) of this section and

(2) Water used for routine cleanup or cleanup of spills.

(ii) These standards do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of benzidine; or to stormwater that exceeds that from the ten year 24-hour rainfall event.

(2) *Analytical method acceptable*. (i) Environmental Protection Agency method specified in 40 CFR Part 136; or

(ii) Mass balance monitoring approach which requires the calculation of the benzidine concentration by dividing the total benzidine contained in dyes used during a working day (as certified in writing by the manufacturer) by the total quantity of water discharged during the working day.

(COMMENT: The Regional Administrator (or State Director, if appropriate) shall rely entirely upon the method specified in 40 CFR 136 in analyses performed by him for enforcement purposes.)

(3) *Effluent standards*—(i) *Existing sources*—Discharges from benzidine-based dye applicators shall not contain benzidine concentrations exceeding an average per working day of 10 μg/l calculated over any calendar month; and shall not exceed 25 μg/l in a sample(s) or calculation(s) representing any working day.

(ii) *New sources*—Discharges from benzidine-based dye applicators shall not contain benzidine concentrations exceeding an average per working day of 10 μg/l calculated over any calendar month; and shall not exceed 25 μg/l in a sample(s) or calculation(s) representing any working day.

(4) The standards set forth in this paragraph (c) shall apply to the total combined concentrations of benzidine, excluding any associated element or compound.

[FR Doc.77-902 Filed 1-11-77;8:45 am]

federal register

WEDNESDAY, JANUARY 12, 1977

PART V

THE NATIONAL ARCHIVES OF THE UNITED STATES 1934

FEDERAL ELECTION COMMISSION

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ADVISORY OPINION REQUESTS

FEDERAL ELECTION COMMISSION

[Notice 1976-72, AOR 1976-112 through AOR 1976-115]

ADVISORY OPINION REQUESTS

Pursuant to 2 U.S.C. section 437f(c) and the procedures reflected in Part 112 of the Commission's Notice of Proposed Rulemaking, published on May 26, 1976 (41 FR 21590), advisory opinion requests 1976-112 through 1976-115 have been made public at the Commission. Copies of AOR 1976-112 through AOR 1976-115 were made available on December 29, 1976. These copies of advisory opinion requests were made available for public inspection and purchase at the Federal Election Commission, Public Records Division, at 1325 K Street, N.W., Washington, D.C. 20463.

Interested persons may submit written comments on any advisory opinion request within ten days after the date the request was made public at the Commission. These comments should be directed to the Office of the General Counsel, Advisory Opinion Section, at the Commission. Persons requiring additional time in which to respond to any advisory opinion requests will normally be granted such time upon written request to the Commission. All timely comments received by the Commission will be considered before the Commission issues an advisory opinion. Comments on pending requests should refer to the specific AOR number of the requests and statutory references should be to the United States Code citations rather than to the Public Law Citations.

A descriptive listing of each of the requests recently made public as well as the identification of the requesting party follows hereafter:

AOR 1976-112: May Democrats Abroad, a political organization of American citizens living overseas, be regarded as a political committee of the Democratic Party for purposes of 2 U.S.C. § 441a(a)(4) which allows unlimited transfers between and among political committees of the same political party.—Requested by Sheldon S. Cohen, Counsel to the Democratic National Committee, Washington, D.C.

AOR 1976-113: May a trade association with corporate members which has received solicitation approvals for 1976 regard such approvals as permitting a "follow-up" to a 1976 solicitation if such "follow-up" occurs early in 1977, but in the absence of solicitation approval for calendar year 1977.—Requested by James J. Butera, Counsel to the Savings Bankers Non-Partisan Political Action Committee, Washington, D.C.

AOR 1976-114: May excess campaign funds of a Member of Congress be used to pay for for telephone bills which exceed the amount of the Member's communication allowance for his Washington office.—Requested by Representative Joseph D. Early, U.S. House of Representatives, Washington, D.C.

AOR 1976-115: Whether various State bankers associations are sufficiently related to the American Bankers Association (ABA) so that political committees established by those associations are affiliated with BANK PAC, the separate segregated fund of the ABA, for purposes of 2 U.S.C. § 441a.—Requested by William H. Smith on behalf of BANKPAC, Washington, D.C.

December 30, 1976.

Vernon W. Thomson,
Chairman for the Federal Election Commission.

[FR Doc.77-910 Filed 1-11-77;8:45 am]

[Notice 1977-1]

CLEARINGHOUSE ADVISORY COMMITTEE

Establishment

In accordance with the provisions of the Federal Advisory Committee Act (5 U.S.C. App. I) and Office of Management and Budget Circular A-63 of March 1974, as revised and after consultation with OMB, the Federal Election Commission has determined that the establishment of the Federal Election Commission Clearinghouse Advisory Committee is in the public interest in connection with the performance of duties imposed on the Commission by law.

The Committee will advise the Commission, through the Chief of the Clearinghouse on Election Administration, on how best to allocate its resources in conducting research, in collecting and disseminating election information, and in providing technical assistance to state and local elections-related public officials.

The Advisory Committee will consist of 20 members with a balanced representation of state election officials, local election officials, and state legislation nominated by the Clearinghouse Chief and appointed by the Commission.

The Committee will function solely as an advisory body and in compliance with the provisions of the Federal Advisory Committee Act. Its charter will be filed in accordance with the Act, pursuant to a time waiver granted by OMB, on or before January 27, 1977.

Interested persons are invited to submit comments regarding the establishment of the Federal Election Commission Clearinghouse Advisory Committee. Such comments, as well as any inquiries, may be addressed to: Clearinghouse, Federal Election Commission, 1325 K Street, N.W., Washington, D.C. 20463.

January 4, 1977.

Thomas E. Harris,
Vice Chairman for the Federal Election Commission.

[FR Doc.77-911 Filed 1-11-77;8:45 am]

[Notice 1976-73]

POLICY STATEMENT

Application of Contribution Limits to Contributions Made After General Election to Retire Debts Incurred With Respect to 1976 Election(s)

Several questions have been posed, both formally and informally, regarding application of the contribution limits in the Federal Election Campaign Act of 1971, as amended ("the Act"), to post-general election contributions made to retire campaign debts incurred in connection with a primary election and/or a general election occurring in 1976. Since these questions relate to candidates and campaigns other than presidential candidates who qualified for Federal funding under Chapters 95 or 96 of the Internal Revenue Code, this statement is not intended to comprehend and treat the separate issues raised by presidential campaigns which received Federal funding.

Proposed regulations, approved by the Commisison and submitted to the Congress on August 3, 1976 (published in the Federal Register on August 25), address the question of contributions made prior to a primary election and between a primary election and a general election. See § 110.1(a)(2). They do not specifically focus on contributions made after a general election for the purpose of retiring a campaign debt incurred with respect to that election except to provide that such contributions are subject to the limits of the Act stated in 2 U.S.C. 441a(a). See § 110.1(g)(2). The regulations do provide that contributions made after a primary for the purpose of retiring a debt incurred in connection with that primary are subject to the $1,000 (or $5,000 if donor is multicandidate committee) contribution limit applicable to the primary. The proposed regulations also state that contributions relating to a primary election already held may be made only to the extent that net debts outstanding from the primary are not exceeded by those contributions. Furthermore, the contributions must be designated in writing for retiring debts incurred with respect to the primary election. § 110.1(a)(2)(i).

Reporting under the Act is cumulative as to outstanding debts and obligations, contributions, and expenditures beginning with the pre-primary election period continuing through the post-general election period. Thus, in cases where a candidate participated in the general election, the Commission will generally regard debts outstanding after the general election as debts incurred with respect to the general election. Post-general election contributions made to the extent of the outstanding debt will be presumed to be made with respect to the general election and so treated for purposes of the contribution limits.

However, there may be situations where a candidate, or his or her campaign committee, finds it advantageous to raise funds from donors who have not "used up" their contribution limits from the primary. If the committee desires to utilize contribution limits still available as to both the primary and general election and can establish from reports filed under the Act (or supporting accounting records) the amount of the outstanding debt which was incurred with respect to a primary election, contributions may be designated in writing by the donor for retiring the primary-related debt. To the extent of the amount of the primary debt, as determined by the committee (subject to Commission audit or review), contributions made after the general election and designated in writing by the donor for the primary debt may be accepted and treated as primary election contributions for purposes of the contribution limits. A committee which allocates its outstanding debts in this manner should submit with its next report, and also with any future reports required by the Act and proposed regulations, separate supporting schedules itemizing the debts relating to the primary and general election. Each designated contribution in an amount which requires listing on a supporting schedule for itemized receipts (exceeding a calendar year aggregate of $100 if the receipt is a contribution from a person, but in any lesser amount if the receipt is a contribution/transfer from a political committee) should be disclosed on the itemized schedule with an annotation indicating the respective debt (primary, general, or both) for which the donor designated the contribution.

In the situation where the candidate or committee allocates its debt to the primary and general elections, contributions (made after the general election) may be designated for the general election debt and received and applied to retire that portion of the debt. If contributions designated for either debt (primary or general) and (1) made before sufficient funds are on hand to retire the respective debt for which designated but (2) received after sufficient funds are on hand to retire such debt, exceed the outstanding debt (as of the date of receipt) for which designated, the excess amount may be applied to retire any outstanding debts whether related to the primary or general election.

Additional contributions which are (1) designated and made before sufficient funds are on hand to retire both debts but (2) received after sufficient funds are on hand to retire both debts may be regarded as excess campaign funds and utilized in accordance with 2 U.S.C. § 439a. In the event the candidate or campaign committee desires to carry-over the excess (determined after all debts relating to the 1976 elections are retired) to a future campaign for Federal office, a last-received, first carried-over rule must be applied to identify the donors of the excess. Those donors must provide written authorization for regarding their contributions as made with respect to a future election and such contributions will be charged against the limits of 2 U.S.C. 441a as applied to contributions made with respect to the future election (primary or general).

Funds which are both donated and received after sufficient contributions are on hand to retire all campaign debts may be regarded as donations to an office account or as contributions related to a future election; in the latter situation the contribution would be subject to § 441a limits as applicable to the future election. Either described use of such funds donated is required to be authorized in writing by the donor before the funds may be retained for future use since donors should be made aware whether funds they have contributed are to be charged against the contribution limits of 2 U.S.C. 441a.

An example will illustrate application of the foregoing points. Assume a situation where a campaign committee has $10,000 of outstanding primary debts and $20,000 of outstanding general election debts as of day one. On day two the committee receives $10,000 of contributions (within the donors' limits) designated in writing for the primary debt. On day one contributor X mailed to the committee a contribution of $500 designated for the primary debt, but it is not received until day five. The contribution may be used for the general election debt. Assume the same facts except by day three the committee has received sufficient contributions to retire its general election debt; thus, by day five (when X's $500 is received) sufficient funds are on hand to retire all debts. The $500 received on day five would be regarded as excess campaign funds and may be utilized under 2 U.S.C. 439a or may be regarded as a contribution relating to a future election which would have to be counted against the limits applicable to that future election. The example may be further modified to illustrate an additional point. A donation made on day six and received on day six (or later) may not be regarded as excess campaign funds since when the donation was made all 1976 campaign debts were retired. Such a donation would be regarded as either a donation to an office account or as a "contribution" relating to a future election, depending on the circumstances under which it was made. Donor authorization (in writing), as described above, would be necesary before the funds could be retained for either use.

The Commission issues this policy statement under its authority to formulate policy with respect to the Act, see 2 U.S.C. 437c(b)(1) and 2 U.S.C. 437d(a)(9), and will incorporate the conclusions stated herein in proposed regulations for submission to the Congress under 2 U.S.C. 438(c).

VERNON W. THOMSON,
Chairman for the Federal Election Commission.

DECEMBER 30, 1976.

[FR Doc.77-909 Filed 1-11-77;8:45 am]

federal register

WEDNESDAY, JANUARY 12, 1977

PART VI

THE NATIONAL ARCHIVES OF THE UNITED STATES 1934

COMMODITY FUTURES TRADING COMMISSION

◆

GENERAL REGULATIONS UNDER THE COMMODITY EXCHANGE ACT

Pending Legal Proceedings

Title 17—Commodity and Securities Exchanges

CHAPTER I—COMMODITY FUTURES TRADING COMMISSION

PART 1—GENERAL REGULATIONS UNDER THE COMMODITY EXCHANGE ACT

Notification of Pending Legal Proceedings

The Commodity Futures Trading Commission ("Commission") has adopted a new § 1.60 of the general regulations under the Commodity Exchange Act, as amended (the "Act"), 7 U.S.C. §§ 1-22 (Supp. V, 1975), which requires every contract market to notify the Commission of certain pending legal proceedings.

On September 7, 1976, the Commission published a proposal to adopt § 1.60 and invited interested persons to submit written comments on the proposed rule. 41 FR 37597 (September 7, 1976). As explained in the Federal Register notice accompanying the proposed rule, the basic purpose of section 1.60 is to assure that the Commission is apprised of all material legal proceedings involving contract markets and their officials, since these proceedings might have a substantial effect on the Commission's efforts to administer and enforce the provisions of the Act. For example, the Commission may wish to participate as amicus curiae, or to intervene, in legal proceedings involving contract markets or their officials, in order to assure that judicial interpretations of the Act or the Commission's regulations do not result in diverse or conflicting rulings with respect to the responsibilities of these persons. At the present time, contract markets are not required to report this type of information, and there is no assurance that the Commission would otherwise be informed of such litigation. After consideration of all the comments received, the Commission has decided to revise the proposed rule and to adopt § 1.60 in the form set forth below.

Proposed § 1.60(a) would have required every contract market to notify the Commission of all material litigation involving the contract market by filing with the Commission a brief written description of the proceedings that included certain information set forth in the proposed rule. One commentator suggested that contract markets be required to submit copies of the pleadings and other documents filed in the legal proceedings, rather than a summary of the proceedings. The Commission is persuaded that this approach would serve the purpose of the proposed rule, as well as relieve contract markets of the burden of preparing summaries that might be difficult to write and might be subject to misinterpretation. As adopted, therefore, § 1.60(a) has been changed to require contract markets to submit to the Commission copies of the complaint, answer and such further documents as may thereafter be requested by the Commission, filed in any material legal proceedings involving the contract market.

Similarly, proposed § 1.60(b)—which would have required contract markets to file a written description of certain legal proceedings involving any officer, director, or other official of the contract market—also has been adopted in a modified form so that contract markets will be required to submit copies of the pleadings and other requested documents filed in the proceedings covered by this section, rather than a summary. As adopted, § 1.60(b) also deletes the proposed exemption from the notification requirements for reparations proceedings instituted against any officer, director, or other official of the contract market. The Commission was persuaded by one commentator that this exemption was unnecessary, since a reparations complaint would not arise out of conduct by such persons "in their capacity as contract market officials," the type of proceeding with which § 1.60(b) is primarily concerned. Finally, those provisions in proposed § 1.60(b) requiring the contract market to submit certain information to the Commission if an officer, director, or other official is to be indemnified for any liabilities arising out of legal proceedings covered by § 1.60 have been adopted as a separate § 1.60 (d). Two commentators suggested that having those provisions in § 1.60(b) created some confusion about when the notice of indemnification must be submitted. To make it clear that the notice of indemnification is to be filed within 10 days after the contract market determines to indemnify an official, the Commission has adopted this notice requirement as a separate § 1.60(d). Otherwise, that requirement is substantially the same as proposed.

The Commission has adopted in a modified form the provisions of proposed § 1.60(c), requiring contract markets to notify the Commission of any proceedings known to the contract market to be contemplated by governmental authorities, other than investigations or enforcement actions which may be instituted by the Commission. As amended, this section requires that, to the extent known to the contract market, the notification is to provide: the name of the court or agency in which the proceedings may be brought; the anticipated date of the institution of the proceedings; the principal parties (including any officers, directors, or other officials of the contract market) which may be bringing or named in the proceedings; a description of the factual and legal basis which may be alleged to underlie the proceedings and the relief which may be sought therein. In addition, the Commission has added a new provision to § 1.60(c), as adopted, which requires that contract markets submit to the Commission copies of the complaint, answer and such further documents as may thereafter be requested by the Commission if formal proceedings are later initiated against the contract market by governmental authorities. These amendments are designed to eliminate any ambiguity created by proposed § 1.60 (c) and (a), which required contract markets to report all legal proceedings "contemplated" by governmental authorities, but only material legal proceedings actually instituted. The Commission believes it should be apprised of any legal proceedings which may be contemplated or instituted by governmental agencies against contract markets. One commentator said that the Commission should develop a liaison with other government agencies to discover "contemplated actions" rather than burden contract markets with reporting these actions. Although the Commission is concerned about imposing additional regulatory burdens on contract markets, it is not persuaded that a liaison with other government agencies would be a practical alternative to requiring contract markets to report these types of legal proceedings. To begin with, it would be very difficult to establish a liaison with every government agency that might institute legal proceedings against a contract market. And, since any liaison arrangement, by its nature, would be informal, there would be no assurance that the Commission would be apprised of all pending legal proceedings. Since contract markets usually would be the only other persons in a position to know about pending legal proceedings involving governmental authorities, the Commission believes the best way to assure that the Commission is apprised of these proceedings is to require that contract markets report them.

Proposed § 1.60(d), in addition to outlining the procedure to be followed in submitting the required notice of pending legal proceedings, provided that proceedings involving only claims for monetary relief would not be material for purposes of § 1.60 if the amount in controversy is less than $15,000. Several commentators said that this made § 1.60 too broad, and one commentators suggested that the Commission limit the notification requirements to:

> (1) Actions against a contract market or its officials (in their capacity as such) alleging violation of duties under the Commodity Exchange Act or its Regulations; and
>
> (2) Actions against a contract market or its officials (in their capacity as such) seeking equitable or monetary relief that, if granted in full or in part, would imperil the exchange's ability to operate.

Although this approach could cover many of the legal proceedings that would be considered material, the Commission is not persuaded that it should limit the notification requirement in this way. The Commission believes there are other types of legal proceedings that may be material for purposes of the rule—such as suits involving the antitrust laws—which apparently would not be reported under the test suggested by these commentators. Another problem with the suggested test is that it would not disclose legal proceedings instituted by the contract market, which may be just as important as suits against the contract market. On the other hand, the Commission did not intend to require contract markets to notify the Commission of all litigation in which the relief sought was something other than a money judgment for less than $15,000. Section 1.60(d) was intended only as a "safe-harbor provision," not a definition of "material" for purposes of the rule. The Commission believes that, as a practical matter, the determination of what litigation is "material" can only be made on a case-by-case basis and that, initially, it should be made by the contract market involved. Accordingly, the Commission has decided to adopt § 1.60(d) substantially in the form proposed, but has redesignated that provision as § 1.60(e) in the rule as adopted. However, the Commission plans to review the definition of material, after it has acquired some experience with the operation of § 1.60, and in this connection, the Commission would be particularly interested in receiving further comments on the types of legal proceedings which should be considered material.

In consideration of the foregoing, the Commodity Futures Trading Commission hereby amends Part I of Chapter 1 of Title 17 of the Code of Federal Regulations by adding a new § 1.60 as follows:

§ 1.60 Pending legal proceedings.

(a) Every contract market shall submit to the Commission copies of the complaint and answer (whether or not formally characterized as such) and such further documents as the Commission may thereafter request, filed in any material legal proceedings to which the contract market is a party or its property or assets is subject.

(b) Every contract market shall submit to the Commission copies of the complaint and answer (whether or not formally characterized as such) and such further documents as the Commisison may thereafter request, filed in any material legal proceedings instituted against any officer, director, or other official of the contract market, arising from conduct in such person's capacity as a contract market official and alleging violations of (1) the Act or any rule, regulation, or order thereunder; (2) the constitution, bylaws or rules of the contract market; or (3) the applicable provisions of state law relating to the duties of officers, directors, or other officials of business organizations.

(c) Every contract market shall notify the Commission in writing of any proceedings known to the contract market to be contemplated against the contract market by governmental authorities, other than investigations or enforcement actions which may be instituted by the Commission. To the extent that such information is available, the notification must include the name of the court or agency in which the proceedings may be brought; the anticipated date of the institution of the proceedings; the principal parties (including any officers, directors or other officials of the contract market) which may be bringing or named in the proceedings; a description of the factual and legal basis which may be alleged to underlie the proceedings and the relief which may be sought therein. If proceedings are later instituted against the contract market by governmental authorities, the contract market shall submit to the Commission copies of the complaint and answer (whether or not formally characterized as such) and such further documents as the Commission may thereafter request, filed in such proceedings.

(d) Every contract market shall notify the Commission if any officer, director or other official of the contract market is to be indemnified by the contract market for any amounts paid as settlements or judgments or amounts paid as fines or penalties in any legal proceeding referred to in paragraphs (a), (b) and (c) of this section. The notification must include information regarding the nature and amount of any such indemnification and a brief statement explaining the reasons why the official is to be indemnified for such liabilities.

(e) The documents required by this section shall be mailed to the Commission's headquarters in Washington, D.C. within 10 days after the effective date (February 15, 1977) of this section as to all matters referred to in pargaraphs (a), (b) and (c) of this section then pending, within 10 days after the initiation of legal proceedings referred to in paragraphs (a) and (b) of this section, within 10 days after the contract market determines to indemnify a contract market official as provided in paragraph (d) of this section, and within 10 days after the contract market becomes aware of the contemplated proceedings and within 10 days after formal initiation of any contemplated proceedings referred to in paragraph (c) of this section. For purposes of paragraph (a) and (b) of this section, legal proceedings are not "material" if the only relief sought is a money judgment for less than $15,000.

(Sec. 8a(5) of the Commodity Exchange Act, as amended, 7 U.S.C. 12a(5) (Supp V, 1975).)

Section 1.60 shall become effective February 15, 1977. However, interested persons may submit comments on the rule, which will be evaluated by the Commission in determining whether to amend the rule. All comments should be in writing and should be addressed to: Commodity Futures Trading Commission, 2033 "K" Street, N.W., Washington, D.C. 20581, Attention: Secretariat. Copies of all comments received respecting § 1.60 will be available for inspection at the Commission's offices in Washington, D.C.

Issued in Washington, D.C. on January 4, 1977.

By the Commission.

William T. Bagley,
Chairman, Commodity Futures Trading Commission.

[FR Doc.77-943 Filed 1-11-77;8:45 am]

federal register

WEDNESDAY, JANUARY 12, 1977

PART VII

DEPARTMENT OF COMMERCE

Patent and Trademark Office

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IMPLEMENTATION OF PATENT COOPERATION TREATY

Proposed Rulemaking

DEPARTMENT OF COMMERCE

Patent and Trademark Office

[37 CFR Parts 1, 3, and 5]

IMPLEMENTATION OF PATENT COOPERATION TREATY

Notice of Proposed Rulemaking

Notice is hereby given that, pursuant to the authority contained in section 6, Title 35 of the United States Code, and Pub. L. 94–131, 89 Stat. 685, of November 14, 1975 which will come into force on the same day as the entry into force of the Patent Cooperation Treaty, the Patent and Trademark Office proposes to amend Title 37 of the Code of Federal Regulations by either amending or revising §§ 1.1, 1.4, 1.5, 1.8, 1.12, 1.14, 1.21, 1.23, 1.25, 1.26, 1.52, 1.55, 1.57, 1.58, 1.72, 1.75, 1.77, 1.78, 1.81, 1.83, 1.84, 1.104, 1.141, 1.146, 1.331, 5.1, 5.3, 5.11, 5.14, 5.15 and 5.17; and by adding new §§ 1.9, 1.61, 1.70, 1.318, 1.401, 1.412, 1.413, 1.414, 1.415, 1.421, 1.422, 1.423, 1.424, 1.425, 1.431, 1.432, 1.433, 1.434, 1.435, 1.436, 1.437, 1.438, 1.445, 1.446, 1.451, 1.455, 1.461, 1.465, 1.468, 1.471, 1.475, 1.481, 1.482, 3.56 and 3.57.

In view of the approaching entry into force of the Patent Cooperation Treaty, the Patent and Trademark Office is proposing certain amendments to the rules of practice in patent cases, forms for patent cases and the rules relating to secrecy of certain inventions and licenses to file applications in foreign countries. These proposed rules provide for the formal acceptance of international applications filed under the Patent Cooperation Treaty in the Patent and Trademark Office as a Designated Office, establish processing fees for international applications, clarify procedures before the Receiving Office and International Search Authority, and provide for other matters relating to the filing and processing of international applications.

All persons are invited to present their views, objections, recommendations or suggestions relating to the proposed rule changes to the Commissioner of Patents and Trademarks, Washington, D.C. 20231 on or before May 26, 1977 on which date a hearing will be held at 9:30 a.m. in Room 11C24, Building 3, 2021 Jefferson Davis Highway, Arlington, Virginia. All persons wishing to be heard orally at the hearing are requested to notify the Commissioner of Patents and Trademarks of their intended appearance. All comments received will be available for public inspection in Room 11E10 of Building 3, at 2021 Jefferson Davis Highway, Arlington, Virginia. If the Patent Cooperation Treaty implementation schedule permits, the period for comments may be extended. It is also possible that a further draft will be published for comment.

The proposed rules will not be promulgated until the Patent Cooperation Treaty and Pub. L. 94–131, 89 Stat. 685 come into force. This will occur three months after the necessary eight ratifications or accessions to the Treaty have occurred, four of which must be countries with major patent activity, PCT Article 63. The United States of America and the Federal Republic of Germany are two of the four major countries which have ratified the Treaty. Two additional major countries must yet ratify or accede to the Treaty before it can enter into force.

This proposal has been reviewed pursuant to E.O. 11821 and OMB Circular A–107 and determined to have no major inflationary impact.

The Patent Cooperation Treaty was published in the Official Gazette on July 14, 1970 at 876 O.G. 341–388. The implementing legislation, Pub. L. 94–131, was published in the Official Gazette on January 6, 1976 at 942 O.G. 177–185. The latest draft of the Administrative Instructions to be promulgated under Rule 89 of the Treaty by the World Intellectual Property Organization is being published in an Official Gazette in January of 1977.

The following comments are directed to the proposed changes and additions in the Patent Rules of Practice.

In order to distinguish which rules apply to national applications, which to international applications, and which to both, it is being proposed that Part I of 37 CFR be divided into 3 subparts. Subpart A would relate to "General Provisions" directed to both national applications and international applications and would include §§ 1.1 through 1.26. Subpart B would relate to "National Processing Provisions" directed to national applications only, and would include §§ 1.31 through 1.352. Subpart C would relate to "International Processing Provisions" under the Patent Cooperation Treaty and would include proposed new §§ 1.401 through 1.482. Within each subpart, where an exception as to the applicability of a rule to national and/or international applications occurs, a specific clarifying reference has been added. In all cases, the present numbering of rules has been maintained.

Section 1.1 provides a special "Box PCT" address to permit an early separation and routing of PCT related mail from other types of mail.

Section 1.4(a) is amended to refer to the added rules relating to international processing.

Section 1.5(a) is amended to indicate that international applications are to be identified by their international application numbers.

Section 1.8(a) is amended to exclude international applications and papers relating thereto from the certificate of mailing procedure.

New § 1.9 is added to distinguish between the terms "national application" and "international application" as used in these rules.

Section 1.12 is amended to refer specifically to the international application number.

Section 1.14(a) indicates the current practice as to application secrecy and also refers specifically to applications identified in international applications. Section 1.14(c) changes the reference from Atomic Energy Commission to the Energy Research and Development Administration.

An international-type search will be made in all national applications as indicated in § 1.104(c). New paragraph (w) to § 1.21 adds a fee to cover the cost of preparing an international-type search report where desired (PCT Art. 15(5)), although it is not required by the United States Patent and Trademark Office.

Section 1.23 includes a reference to international application processing fees to clearly indicate that such fees must be paid in United States currency.

Section 1.25(b) is amended to indicate that international application fees may be charged against deposit accounts.

Section 1.26 is amended to provide for refunding some portion of the international search fee during subsequent national examination where the prior art search is wholly or partly based on the earlier international search. The amount of the refund will be determined by the examiner in a manner similar to that indicated in the remarks directed to § 1.446 below. Such a refund will tend to make applicants' cost of using the PCT about the same regardless of whether the national or international application is filed initially.

In § 1.52, paragraphs (a) and (b) are amended to permit an application complying with the formal requirements of PCT Rule 11 to be formally acceptable as a national application. International applications arriving in the Patent and Trademark Office as a Designated Office under 35 U.S.C. 371 will be in PCT format and with the changed wording of this rule, will also be formally acceptable for national patentability examination.

Section 1.55 is amended to contain an additional paragraph (d) which states the position set forth in PCT Art. 11(3) and 35 U.S.C. 363 that the international filing date is in effect the national filing date except for the reservation under PCT Art. 64(4). This reservation was taken by the United States of America at the time it deposited its instrument of ratification.

Section 1.57 is amended to indicate that the signature on the Request of an international application will be accepted as the signature on the application.

Section 1.58 is amended slightly to remove any conflict with the formal requirements of the Patent Cooperation Treaty.

Section 1.61 is a new section which relates to the filing of an international application with the Patent and Trademark Office as a Designated Office for national patentability examination (35 U.S.C. 371). These requirements differ somewhat from those applying to the regular filing of national applications.

Section 1.70 is a new section which sets forth the requirements of an oath or declaration under 35 U.S.C. 371(c)(4).

Section 1.72 is amended to indicate that the abstract must be located on a separate sheet of paper. This change has been introduced in order to assure uniformity in information placement in international and regular applications that will aid in patent printing. Except for this change, national applications may continue to be filed in the present format.

Section 1.75, paragraph (c), is amended to provide for multiple dependent claims (PCT Rule 6.4). Paragraphs (f) and (g) have been added to incorporate current practice not previously stated in the rules.

Sections 1.77 and 1.78 have been amended to indicate the preferred order of arrangement of application elements including placement of the abstract after the claims as in PCT Art. 3(2) and section 208 of the Administrative Instructions.

Section 1.81 is amended to reflect the changes made in 35 U.S.C. 113 by Pub. L. 94–131 and to comply with PCT Rule 7.2.

Section 1.83 has been amended to remove the mandatory requirement that the drawing show every feature claimed. Such illustrations, however, continue to be strongly preferred and are absolutely essential where necessary for the understanding of the invention.

Section 1.84, which relates to the formal requirements for drawings, has been amended to provide for two alternative drawing sizes. One size is that currently in use and the other is the A4 size required by PCT Rule 11. However, all drawings in a particular application must be of the same size. Other changes have been incorporated to take into consideration the requirements of PCT Rule 11.

Section 1.104 is amended to include a new paragraph (c) relating to the international-type search. Note PCT Art. 15(5) and PCT Rule 41.

Section 1.141 has been amended to provide for including in a single application, inventions so linked as to form a single general inventive concept as in PCT Rule 13.1–13.3.

The rules for determining which inventions can be grouped together in a single application are more liberal in certain respects under the Patent Cooperation Treaty than they are currently in 37 CFR 1.141–1.146. The proposed amendment to § 1.141 extends the more liberal practice, which a Designated Office is required to apply to national applications that have been initially filed as international applications, to all national applications. Paragraph (a) removes the limit of five species of an invention. Paragraphs 1.141(c) (i) and (ii) generally include the wording of PCT Rule 13.2. Paragraphs 1.141 (c)(i) and (d), taken together, state that an application may include, in addition to an allowable independent claim to a product, one independent claim to one process specially adapted for the manufacture of the product as well as one independent claim for one use of the product. Paragraphs 1.141 (c)(ii) and (d), taken together state that an application may include, in addition to an allowable independent claim for a given process, one independent claim for one apparatus or means for carrying out the process. Such claims drawn to product, process of manufacture, process of use, or apparatus, are considered to be claims to different categories. Paragraph 1.141(e) includes generally the wording of PCT Rule 13.3 and is limited to applications where all of the claims are drawn to only one category.

Section 1.146 follows the revised wording of section 1.141 by removing the limit of five species and also removes the reference to a search of the generic claims.

Section 1.318 is a new section relating to the Office's notifying the International Bureau of the publication of a United States patent based on an unpublished international application in accordance with PCT Rule 48.5.

Paragraphs (a) and (c) of § 1.331 are amended to provide for recording of assignments of international applications which designate the United States of America.

Sections 1.401–1.482 relate to processing of international applications during the international processing stage when the United States Patent and Trademark Office acts as a Receiivng Office, International Searching Authority or a Designated Office prior to the acceptance of the international application as a national application for regular patentability examination.

Section 1.401 defines various expressions used in later rules.

Section 1.412 defines those applicants for which the United States Patent and Trademark Office will act as a Receiving Office and also sets forth the major functions of a Receiving Office.

Section 1.413 states that the United States Patent and Trademark Office will act as an International Searching Authority, subject to special agreement and appointment by the Assembly, and indicates some of the major functions thereof.

Section 1.414 states the conditions under which the United States Patent and Trademark Office will act as a Designated Office and defines the functions of the Office as a Designated Office.

Section 1.415 is included to clearly define the authority acting as the International Bureau.

Section 1.421 indicates who may file an international application with the United States Receiving Office.

Sections 1.422, 1.423 and 1.425 are similar to present §§ 1.42, 1.43 and 1.47 and have been added to indicate situations where a person other than the inventor may file an international application designating the United States. These situations include those where the inventor is dead, insane or legally incapacitated, cannot be found or reached, or refuses to sign.

Section 1.431 defines the requirements of an international application filed in the United States Receiving Office.

Section 1.432 relates to the designation of States and the payment of designation fees.

Section 1.433 indicates that only one copy of an international application need be filed and refers to those provisions of the Treaty and Administrative Instructions relating to the physical requirements for international applications.

Section 1.434 relates to the Request portion of an international application.

Section 1.435 calls attention to the PCT Rules relating to the description and also provides that international applications designating the United States must contain an indication of the "best mode" (PCT Rule 5.1(a)(v)).

Section 1.436 refers to the portions of the Treaty and its Regulations which relate to claims.

Section 1.437 relates to the drawings and includes reference to the procedure for receipt of late drawings.

Section 1.438 refers to the abstract requirements of an international application.

Section 1.445 sets forth the fees charged by the Patent and Trademark Office for processing international applications. The amounts of the fees are tentative. More complete and updated studies will be made before these rule changes are finally promulgated and the amounts of the fees will be adjusted accordingly. The fees will be set to reflect 100% recovery of actual cost.

Section 1.446 relates to refund of international application processing fees. It should be noted that since an international-type search will be made in prior filed U.S. national applications or, if an international search made in an international application by the International Searching Authority of Washington is followed by a national examination on such an application, a substantial portion of the international search fee (37 CFR 1.445(a)(2)) could be refunded in many instances. This refund will reduce PCT filing costs.

The examples use the maximum refund and should therefore not be considered to be typical for all applications.

	(A) National application filed first	(B) International application filed first
National filing fee for national application (35 U.S.C. 41)	$65	
Transmittal fee (sec. 1.445 (a)(1))	35	$35
International fees:		
Basic fee (PCT rule 15.2(a))	45	45
Designation fees (3 countries) (PCT rule 15.2(b)(i))	36	36
Search fee (sec. 1.445(a)(2))	300	300
(Search fee refund based on international-type search sec. 1.446)	(−270)	
National filing fee (sec. 1.445(a)(4))		65
(Refund of search fee based on savings at national stage (sec. 1.26)		(−270)
Net international processing fees	146	146

The first fee column, labeled (A), relates to a situation where an applicant first files his national application in the Patent and Trademark Office and later, within the priority year, decides to file an international application with the same claims and designates 3 foreign countries. The total fees for the international application in the example would be $416. However, since the claims are the same as those in the national application in which the Office previously made an international-type search, a refund of $270 would be made as indicated in the table below. This would result in the PCT route fees actually costing the applicant $146.

The second fee column, labeled (B), relates to a situation in which the applicant files his international application initially and designates the United States of America as one of the Designated States. Here again the international application fees would be $416. Subsequently, not later than at the expiration of 20 months from the priority date, (in this example the international filing date, PCT Art. 2(xi)(c)), the applicant must pay his national fees in the Designated Offices (PCT Art. 22.1). The Patent and Trademark Office, as a Designated Office, may refund during patentability examination a portion of the international search fee under § 1.26. This practice will result in the total cost to the applicant being about the same regardless of whether the national or international application is filed first.

The following table is a draft of the criteria which the examiners may use to determine the amount of the international search fee which may be refunded as a result of an earlier international-type search. Similar criteria will be used for refunds under § 1.26. Current plans are to have the examiner making the international search merely indicate which category most nearly describes the situation in the application under consideration.

Criteria for refund

	Refund percentage of search fee	Refund based on $300 search fee
A. The prior international-type search was so complete that only an updating search was required	90	$270
B. The prior international-type search was directed to substantially the same invention. However, the claims in the international vary from the national application so that a search in at least one additional subclass but less than three additional subclasses is required	70	210
C. The prior international-type search was such that about a half of the search time of the international search was saved	40	120
D. The prior international-type search was of only small value. The claims of the international application were so different from the claims in the prior national application that the search of only a few subclasses was saved	25	75
E. The prior international-type search was of no value	0	(1)

[1] No refund.

Section 1.451 indicates the procedures to be used to file certified copies of priority documents. Paragraph (b) includes a procedure by which the Office will automatically forward a copy of the priority document to the International Bureau if a fee for copy preparation and a request for such service is filed with the international application.

Section 1.455 relates to who may act as applicant's representative in an international application, and indicates the International Authority to which powers of attorney and revocations thereof should be sent.

Section 1.461 covers the procedures for transmittal of the record copy to the International Bureau. It should be noted that the alternative procedure in paragraph (b) requires that applicants electing transmittal of the international application by themselves rather than by the receiving Office must file such applications before the expiration of 11 months from the priority date to permit sufficient time for the Receiving Office to process the applications before transmittal by the applicant takes place.

Section 1.465 relates to the time limits for processing based on the priority date that are set by the Treaty and its Regulations. This rule indicates which date is to be used if the original claimed priority date is either canceled or changed.

Section 1.468 refers to excusing failures to meet time limits during international processing.

Section 1.471 covers procedures for correcting or amending international applications.

Section 1.475 indicates to which International Authority changes in person, name or address to the applicant or inventor should be sent during various processing stages.

Section 1.481 relates to the International Searching Authority's finding a lack of unity of invention (multiple inventions) under PCT Rule 13 and the resulting invitation to pay additional fees. This section also relates to the filing of a protest on a holding of lack of unity of invention and the payment of additional fees.

Section 1.482 indicates that the International Searching Authority may determine the novelty and obviousness of generic or linking claims to decide if such claims properly link claims to different inventions.

PART 3

Sections 3.56 and 3.57 are proposed as oath and declaration forms which may be used when filing an international application with the United States Designated Office under 35 U.S.C. 371(c)(4).

PART 5

Section 5.1 relates to inspection of applications by defense agencies. Paragraph (a) indicates that the provisions of Part 5 apply to both national and international applications except as otherwise specifically indicated and that the filing of an international application designating a foreign country is considered to be a "foreign filing." In Paragraph (b) Atomic Energy Commission is changed to the Energy Research and Development Administration.

Paragraph (d) of § 5.3 is added to indicate that the record and search copies will not be forwarded to the Authorities or delivered to the applicant if the international application is under secrecy order.

Sections 5.11, 5.14, 5.15 and 5.17 indicate that a license for filing an international application which designates a foreign country is required in the same manner as a license to file a foreign application directly in a foreign country.

The following table of contents indicates the contents of the proposed subparts and the location of added sections and section headings.

PART 1—RULES OF PRACTICE IN PATENT CASES

Subpart A—General Provisions

(§§ 1.1-1.26)

General Information and Correspondence

Sec.

* * * * *

1.9 Definitions.

* * * * *

Subpart B—National Processing Provisions

(§§ 1.31-1.352)

* * * * *

The Application

* * * * *

1.61 Filing of applications in the United States of America as a Designated Office.

Statement; Oath or Declaration

* * * * *

1.70 Content of oath or declaration relating to content of and amendments to an application under 35 U.S.C. 371(c)(4).

* * * * *

Allowance and Issue of Patent

* * * * *

1.318 Notification of national publication of a patent based on an international application.

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Subpart C—International Processing Provisions

General Information

1.401 Definitions of Terms under the Patent Cooperation Treaty.
1.412 The United States Receiving Office.
1.413 The International Searching Authority of Washington.
1.414 The United States Designated Office.
1.415 The International Bureau.

Who May File an International Application

1.421 Applicant for international application.
1.422 When the inventor is dead.
1.423 When the inventor is insane or legally incapacitated.
1.424 Joint inventors.
1.425 Filing by other inventor.

The International Application

1.431 International application requirements.
1.432 Designation of States and payment of designation fees.
1.433 Physical requirements of international application.
1.434 The request.
1.435 The description.
1.436 The claims.
1.437 The drawings.
1.438 The abstract.

FEES

Sec.
1.445 International application filing and processing fees.
1.446 Refund of international application filing and processing fees.

PRIORITY

1.451 The priority claim and priority document in an international application.

REPRESENTATION

1.455 Representation in international applications.

TRANSMITTAL OF RECORD COPY

1.461 Procedures for transmittal of Record Copy to the International Bureau.

TIMING

1.465 Timing of application processing based on the priority date.
1.468 Delays in meeting time limits.

AMENDMENTS

1.471 Corrections and amendments during international processing.
1.475 Changes in person, name, or address of applicants and inventors.

UNITY OF INVENTION

1.481 Unity of invention.
1.482 Holding of lack of unity of invention.

PART 3—FORMS FOR PATENT CASES

* * * * *

3.56 Oath to be filed with United States Designated Office under 35 U.S.C. 371 (c) (4).
3.57 Declaration to be filed with United States Designated Office under 35 U.S.C. 371 (c) (4).

ATTENTION

The texts of the following proposed amendments are using ► ◄ arrows to indicate additions and [ ] brackets to indicate deletions.

The texts of the proposed amendments are as follows:

PART 1—RULES OF PRACTICE IN PATENT CASES

1. By revising § 1.1 to read as follows:

§ 1.1 All communications to be addressed to Commissioner of Patents and Trademarks.

All letters and other communications intended for the Patent and Trademark Office must be addressed to "Commissioner of Patents and Trademarks," Washington, D.C. 20231. When appropriate, a letter [may] ►should also◄ be marked for the attention of a particular officer or individual. ►Letters and other communications relating to international applications during the international stage and prior to the assignment of a national serial number should be additionally marked "Box PCT."◄

NOTE.—§§ 1.1 to 1.26 are applicable to trademark cases as well as to ►national and international◄ patent cases except provisions specifically directed to patent[s] ►cases◄. ►See § 1.9 for definitions of "national application" and "international application."◄

2. By revising paragraph (a) of § 1.4 to read as follows:

§ 1.4 Nature of correspondence.

(a) Correspondence with the Patent and Trademark Office comprises (1) correspondence relating to services and facilities of the Office, such as general inquiries, requests for publications supplied by the Office, orders for printed copies of patents or trademark registrations, orders for copies of records, transmission of assignments for recording, and the like, and (2) correspondence in and relating to a particular application or other proceeding in the Office. See particularly the rules relating to the filing ►, processing,◄ [and prosecution of applications] or other proceedings [(] ►of national applications in Subpart B,◄ §§ 1.31 to 1.352 ►; of international applications in Subpart C, §§ 1.401–1.482;◄ and ►of trademark applications,◄ §§ 2.11 to 2.189[)].

* * * * *

3. By revising paragraph (a) of § 1.5 to read as follows:

§ 1.5 Identification of application, patent or registration.

(a) When a letter concerns an application for patent, it should state the name of the applicant, the title of the invention, the serial number ►or international application number◄ of the application, the date of filing the same, and, if known, the group art unit and name of the examiner to which it has been assigned (see § 1.55).

* * * * *

4. By revising paragraphs (a) (i) and (xi) of § 1.8 to read as follows:

§ 1.8 Certificate of mailing.

(a) Except in the cases enumerated below, papers and fees required to be filed in the Patent and Trademark Office within a set period of time will be considered as being timely filed if (1) they are addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231, and deposited with the United States Postal Service with sufficient postage as first class mail prior to expiration of the set period, and (2) they are accompanied by a certificate stating the date of deposit (see forms, §§ 3.55 and 4.23). The person signing the certificate should have reasonable basis to expect that the correspondence would be mailed on or before the date indicated. The actual date of receipt of the paper or fee will be used for all other purposes. This procedure does not apply to the following:

(i) The filing of ►national◄ applications ►for patent◄ ;

* * * * *

► (xi) The filing of international applications for patent and papers relating thereto.◄

* * * * *

5. A new § 1.9 is added to read as follows:

►§ 1.9 Definitions.◄

►(a) A national application as used in this Chapter means a United States national application for patent which was either filed in the Office under 35 U.S.C. 111 or which resulted from an international application after compliance with 35 U.S.C. 371.◄

►(b) An international application as used in this Chapter means an international application for patent filed under the Patent Cooperation Treaty prior to entering national processing at the Designated Office stage.◄

6. By revising § 1.12 to read as follows:

§ 1.12 Assignment records open to public inspection.

The assignment records, relating to original or reissue patents, including digests and indexes, are open to public inspection and copies of any instrument recorded may be obtained upon payment of the fee therefor. Assignment records, digests and indexes, relating to any pending or abandoned application are not available to the public. Copies of any such assignment records and information with respect thereto shall be obtainable only upon written authority of the applicant or his assignee or attorney or agent or upon a showing that the person seeking such information is a bona fide prospective or actual purchaser, mortgagee or licensee of such application, unless it shall be necessary to the proper conduct of business before the Office or as provided by these rules. An order for a copy of an assignment should give the identification of the record. If identified only by the name of the patentee and number of the patent, or in the case of a trademark registration by the name of the registrant and number of the registration, or by name of the applicant and serial number ►or international application number◄ of the application, an extra charge will be made for the time consumed in making a search for such assignment.

7. By revising paragraphs (a) and (c) of § 1.14 to read as follows:

§ 1.14 Patent applications preserved in secrecy.

(a) Except as provided in § 1.11(b) pending patent applications are preserved in secrecy. No information will be given by the Office respecting the filing by any particular person of an application for a patent, the pendency of any particular case before it, or the subject matter of any particular application, nor will access be given to or copies furnished of any pending application or papers relating thereto, without written authority in that particular application from the applicant or his assignee or attorney or agent of record, ►unless the application has been identified by serial number in a published patent document or the United States of America has been indicated as a designated state in a published international application, in which case status information such as whether it is pending, abandoned or patented may be supplied, or◄ unless it shall be necessary to the proper conduct of business before the Office or as provided by this part. ►Where an application has been patented, the patent number and issue date may also be supplied.◄

* * * * *

(c) Applications for patents which disclose, or which appear to disclose, or which purport to disclose, inventions or discoveries relating to atomic energy are reported to the ►Energy Research and Development Administration◄ [Atomic Energy Commission] and the [Commission] ►Administration◄ will be given access to such applications, but such reporting does not constitute a determination that the subject matter of each application so reported is in fact useful or an invention or discovery or that such application in fact discloses subject matter in categories specified by secs. 151(c) and 151(d) of the Atomic Energy Act of 1954, 68 Stat. 919 (42 U.S.C. 2181).

* * * * *

8. By adding a new paragraph (w) to § 1.21 to read as follows:

§ 1.21 Patent and miscellaneous fees and charges.

* * * * *

►(w) For preparing an international-type search report in a national patent application .... $25.00.

Note: For fees relating to processing of international applications, see § 1.445.◄

9. By revising § 1.23 to read as follows:

§ 1.23 Method of payment.

All payments of money required for Patent and Trademark Office fees ►, including fees for the processing of international applications (§ 1.445),◄ should be made in United States specie, Treasury notes, national bank notes, post office money orders, or by certified check. If sent in any other form, the Office may delay or cancel the credit until collection is made. Money orders and checks must be made payable to the Commissioner of Patents and Trademarks. Remittances from foreign countries must be payable and immediately negotiable in the United States for the full amount of the fee required. Money sent by mail to the Patent and Trademark Office will be at the risk of the sender; letters containing money should be registered.

10. By revising paragraph (b) of § 1.25 to read as follows:

§ 1.25 Deposit accounts.

* * * * *

(b) Filing, issue, appeal, ►international-type search report, international application processing,◄ and petition fees may be charged against these accounts.

11. By revising § 1.26 to read as follows:

§ 1.26 Refund.

Money paid by actual mistake or in excess, such as a payment not required by law, will be refunded, but a mere change of purpose after the payment of money, as when a party desires to withdraw his application or to withdraw an appeal, will not entitle a party to demand such a return. ►Refund of a portion of any international search fee paid to the Patent and Trademark Office may be made where the prior art search made during the subsequent national examination of that application is wholly or partly based on the earlier international search made in the international application for which the search fee was paid. The amount of the refund will be as determined by the examiner according to the value of the prior international search made by the Patent and Trademark Office as an International Searching Authority, as 90 percent, 70 percent, 40 percent, 25 percent or 0 percent of the international search fee. If the amount of the refund is not a multiple of $10, it will be rounded off to the next higher multiple of $10. (Note § 1.446 for refund of the search fee in an international application.)◄ Amounts of ten cents or less will not be returned unless specifically demanded, within a reasonable time, nor will the payer be notified of such amount; amounts over ten cents but less than one dollar may be returned in postage stamps, and other amounts by check.

12. By revising paragraphs (a) and (b) of § 1.52 to read as follows:

§ 1.52 Language, paper, writing, margins.

(a) The ►application, any papers pertaining thereto, any amendments and the◄ [specification and] oath or declaration must be in the English language ►or be accompanied by a verified translation of the application and a translation of any other papers into the English language◄. All papers which are to become a part of the permanent records of the Patent and Trademark Office must be legibly written ►, typed,◄ or printed in permanent ink or its equivalent in quality. All of the application papers must be presented in a form having sufficient clarity and contrast between the paper and the writing ►, typing,◄ or printing thereon to permit the ►direct◄ production of readily legible copies in any number by use of photographic, electrostatic, photooffset, and microfilming processes. If the papers are not of the required quality, substitute typewritten or printed papers of suitable quality may be required.

(b) The application papers (specification, including claims, ►abstract,◄ oath[,] or declaration, ►and◄ papers as provided for in §§ 1.42, 1.43, 1.47, etc.) and also papers subsequently filed, must be plainly written on but one side of the paper. The size of all sheets of paper should be 8 to 8½ by 10½ to 13 inches (20.3 to 21.6 cm. by 26.6 to 33.0 cm.). A margin of ►at least approximately one inch (2.5 cm.)◄ [1½ inches (3.8 cm.)] must be reserved on the left-hand side ►of each page. The◄ [and on the] top of each page of the ►application◄ [specification], including claims ►must have a margin of at least approximately ¾ inch (2 cm.)◄ The lines ►of text◄ must not be crowded too closely together; typewritten lines should be ►1½ or◄ double spaced. The pages of the ►application◄ [specification], including claims ►and abstract◄ , should be numbered consecutively, starting with 1, the numbers being ►centrally located above or preferably, below, the text◄ [placed in the center of the bottom margins].

* * * * *

13. By adding paragraph (d) to § 1.55 to read as follows:

§ 1.55 Serial number and filing date of application.

* * * * *

►(d) The filing date of an international application designating the United States of America shall be treated as the filing date in the United States of America under PCT Article 11(3), except as provided in 35 U.S.C. 102(e).◄

14. By revising § 1.57 to read as follows:

§ 1.57 Signature.

►(a)◄ The application must be signed by the applicant in person. The signature to the oath or declaration ►under § 1.65◄ will be accepted as the signature to the application provided the oath or declaration ►under § 1.65◄ is attached to and refers to the specification and claims to which it applies. Otherwise the signature must appear at the end of the specification after the claims.

►(b) The signature to the oath or declaration under § 1.70 will be accepted as the signature to the application provided the oath or declaration under § 1.70 specifically refers to the specification and claims to which it applies.◄

►(c)◄ Full names must be given, including at least one given name without abbreviation together with any other given name of initial.

15. By revising § 1.58 to read as follows:

§ 1.58 Chemical and mathematical formulas and tables.

(a) The specification, including the claims, may contain chemical and mathematical formulas, but shall not contain drawings or flow diagrams. The description portion of the specification may contain tables; claims may contain tables ►either◄ [only] if necessary to conform to 35 U.S.C. 112 ►or if otherwise found to be desirable◄ .

(b) All tables and chemical and mathematical formulas in the specification, including claims, and amendments thereto, must be on ►paper which is flexible, strong, white, smooth, non-shiny and durable◄ [pure white durable paper, the surface of which is calendered and smooth], in order to permit use as camera copy when printing any patent which may issue. A good grade of bond paper is acceptable; watermarks should not be prominent. India ink or its equivalent, or solid black typewriter ribbon ►should◄ [must] be used to secure perfectly ►dark◄ [black] solid lines.

(c) To facilitate camera copying when printing, the width of formulas and tables as presented should be limited normally to 5 inches (12.7 cm.) so that it may appear as a single column in the printed patent. If it is not possible to limit the width of a formula or table to 5 inches (12.7 cm.), it is permissible to present the formula or table with a maximum width of 10¾ inches (27.3 cm.) and to place it sideways on the sheet [, in which case the formula or table will appear printed across both columns of the page in the printed patent]. Typewritten characters used in such formulas and tables must be from a block (nonscript) type font or lettering style having capital letters which are at least ►0.08◄ [0.085] inch ►(2.1 mm.)◄ [(2.2 mm.)] high (e.g. elite type). Hand lettering must be neat, clean, and have a minimum character height of ►0.08◄ [0.085] inch ►(2.1 mm.)◄ [(2.2 mm.)]. A space at least ¼ inch (6.4 mm.) high should be provided between the formulas and tables and the text. Tables should have the lines and columns of data closely spaced to conserve space, consistent with high degree of legibility.

16. By adding a new § 1.61 to read as follows:

►§ 1.61 Filing of applications in the United States of America as a Designated Office.◄

►(a) To maintain the benefit of the international filing date, the applicant shall furnish to the United States Patent and Trademark Office a copy of the international application with any amendments, unless it has been previously furnished by the International Bureau or unless it was originally filed in the United States Patent and Trademark Office, a verified translation of the international application and a translation of any amendments into the English language if originally filed elsewhere in another language, the national fee (see § 1.445 (a)(4)) and an oath or declaration of the inventor (see § 1.70) not later than the expiration of 20 months from the priority date.◄

►(b) Where an International Searching Authority has made a declaration that no international search report will be established because the international application relates to subject matter which it is not required to search, or because the application fails to comply with the prescribed requirements to such an extent that a meaningful search could not be carried out, the time for performing the acts referred to in paragraph (a) of this section is two months from the mailing date of the declaration to the applicant.◄

17. By adding a new § 1.70 to read as follows:

►§ 1.70 Content of oath or declaration relating to content of and amendments to an application under 35 U.S.C. 371(c)(4).◄

►(a)(1) When an applicant of an international application, if the inventor, desires to enter the national stage under 35 U.S.C. 371, he must specifically identify the international application and any amendments thereto and state that he verily believes himself to be the original and first inventor or discoverer of the process, machine, manufacture, composition of matter, or improvement thereof, for which he solicits a patent; that he does not know and does not believe that the same was ever known or used in the United States of America before his invention or discovery thereof, and shall state of what country he is a citizen and where he resides and whether he is a sole or joint inventor of the invention claimed in his international application as filed or as amended. In every application the applicant must distinctly state that to the best of his knowledge and belief the invention has not been in public use or on sale in the United States of America more than one year prior to his international application, or patented or described in any printed publication in any country before his invention or more than one year prior to his international application, or patented or made the subject of an inventor's certificate in any foreign country prior to the date of his international application on an application filed by himself or his legal representatives or assigns more than twelve months prior to his international application. He shall state whether or not any application for patent or inventor's certificate on the same invention has been filed in any foreign country, either by himself, or by his legal representatives or assigns. If any such application has been filed, the applicant shall name the country in which the earliest such application was filed, and shall give the day, month, and year of its filing; he shall also identify by country and by day, month, and year of filing, every such foreign application filed more than twelve months before the filing of the international application.◄

►(2) This statement (i) must be subscribed to by the applicant, and (ii) must either (a) be sworn to (or affirmed) as provided in § 1.66, or (b) include the personal declaration of the applicant as prescribed in § 1.68.◄

►(b) If the international application was made as provided in §§ 1.422, 1.423 or 1.425, the applicant shall state his relationship to the inventor and, upon information and belief, the facts which the inventor is required by this section to state.◄

18. By revising paragraph (b) of § 1.72 to read as follows:

§ 1.72 Title and abstract.

* * * * *

(b) A brief abstract of the technical disclosure in the specification must be set forth ►on a separate sheet, preferably following the claims◄ [immediately following the title and preceding the disclosure in a separate paragraph] under the heading "Abstract of the Disclosure." The purpose of the abstract is to enable the Patent and Trademark Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure, and the abstract shall not be used for interpreting the scope of the claims.

19. By revising paragraph (c) of § 1.75 and adding paragraphs (f) and (g) as follows:

§ 1.75 Claim(s).

* * * * *

(c) ►One or more claims may be presented in dependent form, referring back to another claim or claims in the same application. Any dependent claim which refers to more than one other claim ("multiule dependent claim") shall refer to such other claims in the alternative only. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim◄ [When more than one claim is presented, they may be placed in dependent form in which a claim may refer back to and further restrict a single preceding claim]. Claims in dependent form shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim. ►A multiple dependent claim shall be construed to incorporate by reference all the limitations of the particular claim in relation to which it is being considered.◄

* * * * *

►(f) If there are several claims, they shall be numbered consecutively in Arabic numerals.◄

►(g) All dependent claims referring back to a single previous claim, and all dependent claims referring back to several previous claims, should be grouped together to the extent possible.◄

20. By revising § 1.77 to read as follows:

§ 1.77 Arrangement of application ►elements◄.

The ►elements of the application should appear in the following order◄ [following order of arrangement should be observed in framing the application]:

(a) Title of the invention; or an introductory portion stating the name, citizenship, and residence of the applicant, and the title of the invention may be used.

(b) [Abstract of the disclosure.] ►(reserved)◄

(c) Cross-references to related applications, if any.

(d) Brief summary of the invention.

(e) Brief description of the several views of the drawing, if there are drawings.

(f) Detailed description.

(g) Claim or claims.

(h) Signature. (See § 1.57.)

►(i) Abstract of the disclosure.◄

►(j) Drawings.◄

21. By revising paragraph (a) of § 1.78 to read as follows:

§ 1.78 Cross-references to other applications.

(a) When an applicant files an application claiming an invention disclosed in a prior filed copending ►national◄ application ►or international application designating the United States of America◄ of the same applicant, the second application must contain or be amended to contain in the first sentence of the specification following the title [and abstract] a reference to [the] ►such◄ prior application, identifying it by serial number and filing date ►or international application number and international filing date◄ and indicating the relationship of the applications, if the benefit of the filing date of [the] ►such◄ prior application is to be claimed. Cross-references to other related applications may be made when appropriate. (See § 1.14(b)).

* * * * *

22. By revising § 1.81 to read as follows:

§ 1.81 Drawings required.

►(a)◄ The applicant for patent is required by statute to furnish a drawing of his invention ►where necessary for the understanding of the subject matter sought to be patented;◄ [whenever the nature of the case admits of it:] this drawing must be filed with the application.
►(b)◄ Illustrations facilitating an understanding of the invention (for example, flow sheets in cases of processes, and diagrammatic views) may also be furnished in the same manner as drawings [and may be required by the Office when considered necessary or desirable].
►(c) When a drawing or illustration is not necessary for, but would facilitate, the understanding of the subject matter sought to be patented and the applicant has not furnished such a drawing or illustration, the Office may require its submission within a time period of not less than two months from the sending of a notice thereof.◄

23. By revising § 1.83 to read as follows:

§ 1.83 Content of drawing.

(a) The drawing ►should preferably◄ [must] show every feature of the invention specified in the claims. [However,] Conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (e.g., a labeled rectangular box).

(b) When the invention consists of an improvement on an old machine the drawing ►should◄ [must] when possible exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

24. By revising paragraphs (a), (b), (c), (d), (e), (f), (i), (j), and (l) of § 1.84 to read as follows:

§ 1.84 Standards for drawings.

(a) *Paper and ink*. Drawings must be made upon ►paper which is flexible, strong, white, smooth, non-shiny and durable.◄ [pure white paper of a thickness corresponding to] Two-ply or three-ply bristol-board ►is preferred◄. The surface of the paper ►should◄ [must] be calendered [and smooth] and of a quality which will permit erasure and correction with India ink. India ink, or it equivalent in quality, ►is preferred◄ [must be used] for pen drawings to secure perfectly black solid lines. The use of white pigment to cover lines is not ►normally◄ acceptable.
(b) *Size of sheet and margins*. The size of ►the sheets on which drawings are made may either be◄ [a sheet on which a drawing is made must be] exactly 8½ by 14 inches (21.6 by 35.6 cm.) ►or exactly 21.0 by 29.7 cm. (DIN size A4). All drawing sheets in a particular application must be the same size.◄ One of the shorter sides of the sheet is regarded as its top.
►(1) On 8½ by 14 inch drawing sheets,◄ the drawing must include a top margin of 2 inches (5.1 cm.) and bottom and side margins of one-quarter inch (6.4 mm.) from the edges, thereby leaving a "sight" precisely 8 by 11¾ inches (20.3 by 29.8 cm.). Margin border lines are not permitted. All work must be included within the "sight". The sheets may be provided with two one-quarter inch (6.4 mm.) diameter holes having their centerlines spaced eleven-sixteenths inch (17.5 mm.) below the top edge and 2¾ inches (7.0 cm.) apart, said holes being equally spaced from the respective side edges.
►(2) On 21.0 by 29.7 cm. drawing sheets, the drawing must include a top margin of at least 2.5 cm., a left side margin of 2.5 cm., a right side margin of 1.5 cm., and a bottom margin of 1.0 cm. Margin border lines are not permitted. All work must be contained within a sight size not to exceed 17 by 26.2 cm.◄

(c) *Character of lines*. All drawings must be made with drafting instruments or by a process which will give them satisfactory reproduction characteristics. Every line and letter must be ►durable, black or blue, sufficiently dense and dark, uniformly thick and well defined;◄ [absolutely black and permanent;] the weight of all lines and letters must be heavy enough to permit adequate reproduction. This direction applies to all lines however fine, to shading, and to lines representing cut surfaces in sectional views. All lines must be clean, sharp, and solid [, and fine] ►. Fine◄ or crowded lines should be avoided. Solid black ►or blue◄ should not be used for sectional or surface shading. Freehand work should be avoided wherever it is possible to do so.

(d) *Hatching and shading*. (1) Hatching should be made by oblique parallel lines ►spaced sufficiently apart to enable the lines to be distinguished without difficulty◄ [, which may be not less than about one-twentieth inch (1.3 mm.) apart].

(2) Heavy lines on the shade side of objects should ►preferably◄ be used except where they tend to thicken the work and obscure reference characters. The light should come from the upper left hand corner at an angle of 45°. Surface delineations should ►preferably◄ be shown by proper shading, which should be open.

(e) *Scale*. The scale to which a drawing is made ought to be large enough to show the mechanism without crowding when the drawing is reduced ► in size to two-thirds◄ in reproduction, and views of portions of the mechanism on a larger scale should be used when necessary to show details clearly; two or more sheets should be used if one does not give sufficient room to accomplish this end, but the number of sheets should not be more than is necessary.
(f) *Reference characters*. The different views should be consecutively numbered figures. Reference numerals (and letters, but numerals are preferred) must be plain, legible and carefully formed, and not be encircled. They should, if possible, measure at least one-eighth of an inch (3.2 mm.) in height so that they may bear reduction to one twenty-fourth of an inch (1.1 mm.); and they may be slightly larger when there is sufficient room. They ►should◄ [must] not be so placed in the close and complex parts of the drawing as to interfere with a thorough comprehension of the same, and therefore should rarely cross or mingle with the lines. When necessarily grouped around a certain part, they should be placed at a little distance, at the closest point where there is available space, and connected by lines with the parts to which they refer. They should not be placed upon hatched or shaded surfaces but when necessary, a blank space may be left in the hatching or shading where the character occurs so that it shall appear perfectly distinct and separate from the work. The same part of an invention appearing in more than one view of the drawing must always be designated by the same character, and the same character must never be used to designate different parts. ►Reference signs not mentioned in the description shall not appear in the drawing, and vice versa.◄

* * * * *

(i) *Views*. The drawing must contain as many figures as may be necessary to show the invention; the figures should be consecutively numbered if possible in the order in which they appear. The figures may be plain, elevation, section, or perspective views, and detail views of portions of elements, on a larger scale if necessary, may also be used. Exploded views, with the separated parts of the same figure embraced by a bracket, to show the relationship or order of assembly of various parts are permissible. When necessary, a view of a large machine or device in its entirety may be broken and extended over several sheets if there is no loss in facility of understanding the view. ►Where figures on two or more sheets form in effect a single complete figure, the figures on the several sheets should be so arranged that the complete figure can be assembled without concealing any part of any of the figures appearing in the various sheets◄ [(the different parts should be identified by the same figure number but followed by the letters, a, b, c, etc., for each part)]. The plane upon which a sectional view is taken should be indicated on the general view by a broken line, the ends of which should be designated by numerals corresponding to the figure number of the sectional view and have arrows applied to indicate the direction in which the view is taken. A moved position may be shown by a broken line superimposed upon a suitable figure if this can be done without crowding, otherwise a separate figure must be used for this purpose. Modified forms of construction can only be shown in separate figures. Views should not be connected by projection lines nor should center lines be used.

(j) *Arrangement of views.* All views on the same sheet ►should◄ [must] stand in the same direction and [should], if possible, stand so that they can be read with the sheet held in an upright position. If views longer than the width of the sheet are necessary for the clearest illustration of the invention, the sheet may be turned on its side so that the ►top of the sheet with the appropriate top margin◄ [two-inch (5.1 cm.) margin] is on the right hand side. One figure must not be placed upon another or within the outline of another.

* * * * *

(1) *Extraneous matter.* [An inventor's, agent's, or attorney's name, signature, stamp, or address, or other extraneous matter, will not be permitted upon the face of a drawing, within or without the margin, except that] Identifying indicia (►such as the◄ attorney's docket number, inventor's name, number of sheets, etc.) [should] ►not to exceed 2¾ inches (7.0 cm.) in width may◄ be placed ►in a centered location between the side edges◄ within three-fourths inch (19.1 mm.) of the top edge [and between the hole locations defined in paragraph (b) of this section]. Authorized security markings may be placed on the drawings provided they [be] ►are◄ outside the illustrations and are removed when the material is declassified. ►Other extraneous matter will not be permitted upon the face of a drawing.◄

* * * * *

25. By adding new paragraphs (c) and (d) to § 1.104 to read as follows:

§ 1.104 Nature of examination; examiner's action.

* * * * *

►(c) An international-type search will be made in all national applications filed on and after the date the United States Patent and Trademark Office is appointed as an International Searching Authority.◄

►(d) Any national application may also have an international-type search report prepared thereon at the time of the national examination upon specific written request therefor and payment of the international-type search report fee. See § 1.21(w) for amount of fee for preparation of international-type search report.◄

26. By revising § 1.141 to read as follows.

§ 1.141 Different inventions in one application.

►(a)◄ Two or more independent and distinct inventions may not be claimed in one application ►. However, a group in one application . However, a group of inventions which are so linked as to form a single general inventive concept such as those set forth in paragraphs (b), (c) or (d) of this section, are considered to be one invention under §§ 1.141–1.146◄ [except that more than one species of an invention, not to exceed five].

►(b) Different species of an invention◄ may be specifically claimed in different claims in one application, provided the application also includes an allowable claim generic to all the claimed species and all the claims to [each] species in excess of one are written in dependent form (§ 1.75) or otherwise include all the limitations of the generic claim.

►(c) Paragraph (a) of this section shall be construed as permitting the examination of claims of different categories in an application, in particular either of the following two groupings of claims of different categories:◄

►(i) in addition to an independent claim for a given product, the inclusion in the same application of one independent claim for one process specially adapted for the manufacture of the said product, or the inclusion in the same application of one independent claim for one use of the said product, or both; or◄

►(ii) in addition to an independent claim for a given process, the inclusion in the same application of one independent claim for one apparatus or means specifically designed for carrying out the said process.◄

►(d) If the product claim of subparagraph (i) of paragraph (c) of this section or the process claim of subparagraph (ii) of paragraph (c) of this section is not allowable, the examiner may withdraw from consideration the claims to the other categories. If subsequently such a product or process claim is found allowable, the examiner must also consider the merits of the claims to the other categories as indicated in subparagraphs (i) and (ii) of paragraph (c) of this section.◄

►(e) Subject to paragraph (a) of this section, and except where paragraph (c) of this section applies, there may be included in the same application two or more independent claims of one and the same category (i.e., product, process, apparatus, or use) which cannot readily be covered by a single generic claim.◄

27. By revising § 1.146 to read as follows:

§ 1.146 Election of species.

In the first action on an application containing a generic claim and claims restricted separately to each of more than one species embraced thereby, the examiner[, if of the opinion after a complete search on the generic claims that no generic claim presented is allowable,] shall require the applicant in his response to that action to elect that species of his invention to which his claims shall be restricted if no generic claim is finally held allowable. [However, if such application contains claims directed to more than five species, the examiner may require restriction of the claims to not more than five species before taking any further action in the case.]

28. By adding a new § 1.318 to read as follows:

►§ 1.318 Notification of national publication of a patent based on an international application.◄

►The Office will notify the International Bureau when a patent is issued on an application filed under 35 U.S.C. 371, and there has been no previous international publication.◄

29. By revising paragraphs (a) and (c) of § 1.331 to read as follows:

§ 1.331 Recording of assignments.

(a) Assignments, including grants and conveyances, of patents ►, national applications, or international applications which designate the United States of America◄ [or applications for patents] under 35 U.S.C. 261, will be recorded in the Patent and Trademark Office. Other instruments affecting title to a patent[or application for patent.] ►, a national application, or an international application which designates the United States of America◄, and licenses, even though the recording thereof may not serve as constructive notice under 35 U.S.C. 261, will be recorded as provided in this section or in the discretion of the Commissioner.

* * * * *

(c) An instrument relating to a patent should identify the patent by number and date (the name of the inventor and title of the inventinon as stated in the patent should also be given); an instrument relating to [an] ►a national application, or an international◄ application ►which designates the United States of America◄ should identify the application by serial ►number or international application◄ number and date of filing (the name of the inventor and title of the invention as stated in the application should also be given) but if an asignment is executed concurrently with or subsequent to the execution of the application but before the application is filed or before its serial ►number or international application◄ number and filing date are ascertained, it should adequately identify the application, as by its date of execution and name of the inventor and title of the invention; so that there can be no mistake as to the patent or application intended.

PROPOSED SUBPART C

. 30. By adding a new § 1.401 to read as follows:

►§ 1.401 Definitions of Terms under the Patent Cooperation Treaty.◄

►(a) The abbreviation "PCT" or the term "Treaty" means the Patent Cooperation Treaty.◄

►(b) "International Bureau" means the World Intellectual Property Organization located at 32 chemin des Colombettes, Geneva, Switzerland.◄

►(c) "Administrative Instructions" means that body of instructions for operating under the Patent Cooperation Treaty referred to in PCT Rule 89.◄

►(d) "Request", when capitalized, means that element of the international application described in PCT Rules 3 and 4.◄

►(e) "International application", as used in this Subchapter is defined in § 1.9.◄

►(f) "Priority date" for the purposes of computing time limits under the Patent Cooperation Treaty is defined in PCT Art. 2 (xi). Note also § 1.465.◄

►(g) Other terms and expressions in this subpart C not defined in this section are to be taken in the sense indicated in PCT Art. 2 and 35 U.S.C. 351.◄

31. By adding a new § 1.412 to read as follows:

►§ 1.412 The United States Receiving Office.◄

►(a) The United States Patent and Trademark Office is a Receiving Office only for applicants who are residents or nationals of the United States of America.◄

►(b) The Patent and Trademark Office, when acting as a Receiving Office, will be identified by the full title "United States Receiving Office" or by the abbreviation "RO/US."◄

►(c) The major functions of the Receiving Office include:

(1) according of international filing dates to international applications meeting the requirements of PCT Art. 11(1), and PCT Rule 20;

(2) assuring that international applications meet the standards for format and content of PCT Art. 14(1), PCT Rules 9, 26, 29.1, 37, 38, 91, and portions of PCT Rules 3 through 11;

(3) collecting and, when required, transmitting fees due for processing international applications (PCT Rules 14, 15, 16); and

(4) transmitting the record and search copies to the International Bureau and International Searching Authority, respectively (PCT Rules 22 and 23).◄

32. By adding a new § 1.413 to read as follows:

►§ 1.413 The International Searching Authority of Washington.◄

►(a) Pursuant to appointment by the Assembly, the United States Patent and Trademark Office will act as an International Searching Authority for international applications filed with the United States Receiving Office, in accordance with agreement between the Patent and Trademark Office and the International Bureau (PCT Art. 16(3)(b)).◄

►(b) The Patent and Trademark Office, when acting as an International Searching Authority, will be identified by the full title "International Searching Authority of Washington," or by the abbreviation "ISA/US."◄

►(c) The major functions of the International Searching Authority include:

(1) approving or establishing the title and abstract;

(2) considering the matter of unity of invention;

(3) conducting international and internatonal-type searches and preparing international and international-type search reports (PCT Art. 15, 17 and 18, and PCT Rules 25, 33–45 and 47); and

(4) transmitting the international search report to the applicant and the International Bureau.◄

33. By adding a new § 1.414 to read as follows:

►§ 1.414 The United States Designated Office.◄

►(a) The United States Patent and Trademark Office will act as a Designated Office for international applications in which the United States of America has been designated as a State in which patent protection is desired.◄

►(b) The Patent and Trademark Office, when acting as a Designated Office during international processing will be identified by the full title "United States Designated Office" or by the abbreviation "DO/US."◄

►(c) The major functions of the United States Designated Office in respect to international applications in which the United States of America has been designated, include:

(1) Receiving various notifications throughout the International stage.

(2) Accepting for regular national patentability examination international applications which satisfy the requirements of 35 U.S.C. 371, and

(3) Conducting reviews under PCT Article 25 for those international applications declared withdrawn.◄

34. By adding a new § 1.415 to read as follows:

►§ 1.415 The International Bureau.◄

►(a) The International Bureau is the World Intellectual Property Organization located at Geneva, Switzerland. It is the international intergovernmental organization which acts as the coordinating body under the Treaty and the Regulations. (PCT Art. 2 (xix) and 35 U.S.C. 351(h).)◄

►(b) The major functions of the International Bureau include:

(1) Publishing of international applications and the International Gazette;

(2) Transmitting copies of international applications to Designated Offices;

(3) Storing and maintaining record copies; and

(4) Transmitting information to authorities pertinent to the processing of specific international applications.◄

35. By adding a new § 1.421 to read as follows:

►§ 1.421 Applicant for international application.◄

►(a) Only residents or nationals of the United States of America may file international applications in the United States Receiving Office.◄

►(b) Although the United States Receiving Office will accept international applications filed by any resident or national of the United States of America for international processing, an international application designating the United States of America will be accepted by the Patent and Trademark Office for the national stage only if filed by the inventor or as provided in §§ 1.422, 1.423 or 1.425.◄

►(c) International applications which do not designate the United States of America may be filed by the assignee or owner.◄

►(d) Any indication of different applicants for the purpose of different designated offices must be shown on the Request portion of the international application.◄

►(e) Changes in the person, name, or address of the applicant shall be made in accordance with PCT Rule 18.5.◄

36. By adding a new § 1.422 to read as follows:

►§ 1.422 When the inventor is dead.◄

►In case of the death of the inventor, the legal representative (executor, administrator, etc.) of the deceased inventor may sign the Request and other papers in an international application which designates the United States of America.◄

37. By adding a new § 1.423 to read as follows:

►§ 1.423 When the inventor is insane or legally incapacitated.◄

►In case an inventor is insane or otherwise legally incapacitated, the legal representative (guardian, conservator, etc.) of such inventor may sign the Request and other papers in an international application which designates the United States of America.◄

38. By adding a new § 1.424 to read as follows:

►§ 1.424 Joint inventors.◄

►Joint inventors must each sign the Request in an international application which designates the United States of America; the signature of either of them alone, or less than the entire number will be insufficient for an invention invented by them jointly, except as provided in § 1.425.◄

39. By adding a new § 1.425 to read as follows:

►§ 1.425 Filing by other than inventor.◄

►(a) If a joint inventor refuses to join in an international application which designates the United States of America or cannot be found or reached after diligent effort, the international application which designates the United States of America may be filed by the other inventor on behalf of himself and the omitted inventor. Such an international application which designates the United States of America must be accompanied by proof of the pertinent facts and must state the last known address of the omitted inventor. The Patent and Trademark Office shall forward notice of the filing of the international application to the omitted inventor at said address.◄

►(b) Whenever an inventor refuses to execute an international application which designates the United States of America, or cannot be found or reached after diligent effort, a person to whom the inventor has assigned or agreed in writing to assign the invention or who otherwise shows sufficient proprietary interest in the matter justifying such action may file the international application on behalf of and as agent for the inventor. Such an international application which designates the United States of America, must be accompanied by proof of the pertinent facts and a showing that such action is necessary to preserve the rights of the parties or to prevent irreparable damage, and must state the last known address of the inventor. The assignment, written agreement to assign or other evidence of proprietary interest, or a verified copy thereof, must be filed in the Patent and Trademark Office. The Office shall forward notice of the filing of the application to the inventor at the address stated in the application.◄

40. By adding a new § 1.431 to read as follows:

►§ 1.431 International application requirements.◄

►(a) An international application shall contain, as specified in the Treaty and the Regulations, a Request, a description, one or more claims, one or more drawings (where required), and an abstract (PCT Art. 3(2)).◄

►(b) An international filing date will be accorded by the United States Receiving Office, at the time of receipt of the international application, provided that:

(1) The applicant is a United States resident or national (35 U.S.C. 361(a), PCT Art. 11(1) (i)).

(2) The international application is in the English language (35 U.S.C. 361 (c), PCT Art. 11(1) (ii)).

(3) The international application contains at least the following elements (PCT Art. 11(1) (iii)):

(i) An indication that it is intended as an international application (PCT Rule 4.2),

(ii) The designation of at least one contracting State of the International Patent Cooperation Union,

(iii) The name of the applicant, as prescribed (note § 1.422),

(iv) A part on the face of it appears to be a description, and

(v) A part which on the face of it appears to be a claim (PCT Art. 11(1)).◄

►(c) Payment of the basic portion of the international fee (PCT Rule 15.2) and the transmittal and search fees (§ 1.441) shall be made in full at the time the international application papers required by paragraph (b) of this section are deposited. Failure to make full payment on the same date as the deposit of the international application papers required by paragraph (b) of this section will result in the international application being considered withdrawn (PCT Art. 14(3) (a)).◄

41. By adding a new § 1.432 to read as as follows:

►§ 1.432 Designation of States and payment of designation fees.◄

►(a) The names of Designated States shall appear in the Request upon filing and must be indicated as set forth in section 202 of the Administrative Instructions.◄

►(b) The designation fees may be paid upon filing of the international application, but must be paid at the latest before the expiration of one year from the priority date (PCT Rule 15.4(b)). Failure to timely pay the designation fee for a particular Designated State will result in the withdrawal of that designation (PCT Art. 14(3) (b)). Failure to timely pay at least one designation fee will result in the withdrawal of the international application (PCT Art. 14 (3) (a)).◄

42. By adding a new § 1.433 to read as follows:

►§ 1.433 Physical requirements of international application.◄

►(a) The international application and each of the documents that may be referred to in the check list of the Request (PCT Rule 3.3(a) (ii)) shall be filed in one copy only.◄

►(b) The physical requirements for international applications are set forth in PCT Rule 11 and Sections 201–208 of the Administrative Instructions.◄

43. By adding a new § 1.434 to read as follows:

►§ 1.434 The Request.◄

►(a) The Request shall be made on a standardized printed form (PCT Rules 3 and 4). Copies of such printed Request forms are available from the Patent and Trademark Office.◄ Letters requesting such forms should be marked "Box PCT."

►(b) The Check List portion of the request form should indicate each document accompanying the international application on filing.◄

►(c) All information, for example, addresses, names of States and dates, shall be indicated in the Request as required by PCT Rule 4 and Administrative Instructions 201 and 202.◄

►(d) International applications which designate the United States of America shall include:

(1) the name, address, and signature of the inventor, except as provided by §§ 1.422, 1.423 and 1.425;

(2) a reference to any copending national application or international application designating the United States of America, if the benefit of the filing date of the prior copending application is to be claimed.◄

44. By adding a new § 1.435 to read as follows:

►§ 1.435 The description.◄

►(a) Requirements as to the content and form of the description are set forth in PCT Rules 5, 9, 10, and 11 and Administrative Instruction 205, and shall be adhered to.◄

►(b) In international applications designating the United States of America the description must contain upon filing an indication of the best mode contemplated by the inventor for carrying out the claimed invention.◄

45. By adding a new § 1.436 to read as follows:

►§ 1.436 The claims.◄

►The requirements as to the content and format of claims are set forth in PCT Art. 6 and PCT Rules 6, 9, 10, and 11 and shall be adhered to.◄

46. By adding a new § 1.437 to read as follows:

►§ 1.437 The drawings.◄

►(a) Subject to paragraph (b) of this section, when drawings are necessary for the understanding of the invention, or are mentioned in the description, they must be part of an international application as originally filed in the United States Receiving Office in order to maintain the international filing date during the national stage (PCT Art. 7).◄

►(b) Drawings missing from the application upon filing will be accepted if such drawings are received within 30 days of the date of first receipt of the incomplete papers. If the missing drawings are received within the 30 day period, the international filing date shall be the date on which such drawings are received. If such drawings are not timely received all references to drawings in the international application shall be considered non-existent (PCT Art. 14(2), Administrative Instruction 310).◄

►(c) The physical requirements for drawings are set forth in PCT Rule 11 and shall be adhered to.◄

47. By adding a new § 1.438 to read as follows:

►§ 1.438 The abstract.◄

►(a) Requirements as to the content and form of the abstract are set forth in PCT Rule 8, and shall be adhered to.◄

►(b) Lack of an abstract upon filing of an international application will not affect the granting of a filing date. However, failure to furnish an abstract within one month from the date of the notification by the Receiving Office will result in the international application being declared withdrawn.◄

48. By adding a new § 1.445 to read as follows:

►§ 1.445 International application filing and processing fees.◄

►(a) The following fees and charges are established by the Patent and Trademark Office under the authority of 35 U.S.C. 376.

(1) A transmittal fee (see 35 U.S.C. 361(d) and PCT Rule 14) ________ $35.00.

(2) A search fee (see 35 U.S.C. 361(d) and PCT Rule 16) ________ $300.00

(3) A supplemental search fee when required (see PCT Art. 17(3) (a) and PCT Rule 40.2) ________ $200.00 per additional invention.

(4) The national fee, that is, the amount set forth as the filing fee under 35 U.S.C. 41(a)1.

(5) A special fee when required, see 35 U.S.C. 372(c) ________ $10.00 per claim.◄

►(b) The basic fee and designation fee portions of the international fee shall be as prescribed in PCT Rule 15.◄

49. By adding a new § 1.446 to read as follows:

►§ 1.446 Refund of international application filing and processing fees.◄

►(a) Money paid for international application fees, where paid by actual mistake or in excess, such as a payment not required by law or Treaty and its Regulations, will be refunded.◄

►(b) Refunds of a portion of the search fee may be made if the international search report is wholly or partly based on an earlier international or international-type search. (PCT Rules 16 and 41.) The amount of the refund will be as determined by the examiner according to the value of the prior international-type search or international search as 90 percent, 70 percent, 40 percent, 25 percent, or 0 percent of the international search fee. See § 1.26 for refund of a portion of the international search fee during subsequent national examination of the application.◄

►(c) Refund of the supplemental search fees will be made if such refund is determined to be warranted by the Commissioner or his designee acting under PCT Rule 40.2(c).◄

►(d) The international and search fees will be refunded if no international filing date is granted (PCT Rules 15.6 and 16.2).◄

50. By adding a new § 1.451 to read as follows:

►§ 1.451 The priority claim and priority document in an international application.◄

►(a) The claim for priority must be made on the Request (PCT Rule 4.10) in a manner complying with sections 201 and 202 of the Administrative Instructions.◄

►(b) Whenever the priority of an earlier United States national application is claimed in an international application, the applicant may request in a letter of transmittal accompanying the international application upon filing with the United States Receiving Office, that the Patent and Trademark Office prepare a certified copy of the national application for transmittal with the record copy to the International Bureau (PCT Art. 8 and PCT Rule 17). The fee for preparing a certified copy is stated in § 1.21 (b) and (d).◄

►(c) If a certified copy of the priority document is not submitted together with the international application on filing or a request and appropriate payment as in paragraph (b) of this section do not accompany the international application on filing, the certified copy of the priority document must be transmitted directly by the applicant to the International Bureau within the time limit specified in PCT Rule 17.1(a).◄

51. By adding a new § 1.455 to read as follows:

►§ 1.455 Representation in international applications.◄

►(a) Applicants of international applications may be represented by attorneys or agents licensed to practice before the Patent and Trademark Office or by a common representative (PCT Art. 49, Rules 4.8 and 90 and § 1.341).◄

►(b) Appointment of an agent, attorney or common representative must be effected either in the Request form, signed by all applicants, or in a separate power of attorney submitted either to the United States Receiving Office or to the International Bureau.◄

►(c) Powers of attorney and revocations thereof should be submitted to the United States Receiving Office until the issuance of the international search report in order to facilitate communications.◄

►(d) The addressee for correspondence will be as indicated in Section 108 of the Administrative Instructions.◄

52. By adding a new § 1.461 to read as follows:

►§ 1.461 Procedure for transmittal of Record Copy to the International Bureau.◄

►(a) Transmittal of the record copy of the international application to the International Bureau shall be made, at the option of the applicant, either by the United States Receiving Office or by the applicant. Subject to paragraph (b) of this section, any applicant who chooses to make such transmittal himself shall notify the United States Receiving Office to that effect in writing, by way of a notice filed together with the internatinal application. Such notice shall also state whether the applicant wishes to collect the record copy at the United States Receiving Office or to have the record copy mailed directly to him. The record copy of an international application which was filed without being accompanied by such notice will be transmitted to the International Bureau by the United States Receiving Office. (PCT Rule 22).◄

►(b) An applicant may transmit the record copy to the International Bureau as provided in PCT Rule 22.2 only if the international application is filed with the United States Receiving Office before the expiration of 11 months from the priority date.◄

53. By adding a new § 1.465 to read as follows:

►§ 1.465 Timing of application processing based on the priority date.◄

►(a) For the purpose of computing time limits under the Treaty, the priority date shall be defined as in PCT Art. 2 (xi).◄

►(b) When a claimed priority date is cancelled under PCT Rule 4.10(d) or considered not to have been made under PCT Rule 4.10(a), the priority date for the purposes of computing time limits will be the date of the earliest valid remaining priority claim of the international application, or if none, the international filing date.

►(c) When corrections under PCT Art. 11(2), Art. 14(2) or Rule 20.2(a) (i) or (iii) are timely submitted, and the date of receipt of such corrections falls later than one year from the claimed priority date or dates, the Receiving Office shall proceed under Rule 4.10(d).◄

54. By adding a new § 1.468 to read as follows:

►§ 1.468 Delays in meeting time limits.◄

►(a) Delays in meeting time limits during international processing of international applications may only be excused as provided in PCT Rule 82. For delays in meeting time limits in a national application see § 1.137.◄

►(b) In cases of unavoidable delay or loss in the mail during international processing of international applications, evidence may be offered only if the mail that was delayed or lost was registered by the postal authorities.◄

55. By adding a new § 1.471 to read as follows:

►§ 1.471 Corrections and amendments during international processing.◄

►(a) All corrections submitted to the United States Receiving Office must be in the form of replacement sheets and be accompanied by a letter that draws attention to the differences between the replaced sheets and the replacement sheets, except that the delegation of lines of text, the correction of simple typographical errors, and one addition or change of not more than five words per sheet may be stated in a letter and the United States Receiving Office will make the deletion or transfer the correction to the international application, provided that such corrections do not adversely affect the clarity and direct reproducibility of the application (PCT Rule 26.4).◄

►(b) Amendments of claims submitted to the International Bureau shall be as prescribed by PCT Rule 46.◄

56. By adding a new § 1.475 to read as follows:

►§ 1.475 Changes in person, name, or address of applicants and inventors.◄

►All requests for a change in person, name or address of applicants and inventors should be sent to the United States Receiving Office until the time of issuance of the international search report. Thereafter requests for such changes should be submitted to the International Bureau.◄

57. By adding § 1.481 to read as follows:

►§ 1.481 Determination of Unity of Invention before the International Searching Authority.◄

►(a) Before establishing the international search report, the International

Searching Authority shall determine whether the international application complies with the requirement of unity of invention as set forth in PCT Rule 13. If the International Searching Authority considers that the international application does not so comply, it shall inform the applicant accordingly and request the payment of additional fees. (Note § 1.441 and PCT Art. 17(3)(a) and PCT Rule 40.)◄

►(b) The applicant will be given a time period in accordance with PCT Rule 40.3 to pay the additional fees due.◄

►(c) If the applicant disagrees with the holding of lack of unity of invention by the International Searching Authority, he may pay the additional fee under protest, that is accompanied by a request for refund and a statement setting forth his reasons for disagreement or why he considers the required additional fees excessive, or both (PCT Rule 40.2(c)).◄

►(d) Protests under paragraph (c) of this section will be examined by the Commissioner or his designee. In the event that the applicant's protest is determined to be justified, the additional fees or a portion thereof will be refunded.◄

►(e) An applicant who desires that a copy of the protest and the decision thereon accompany the international search report when forwarded to the designated offices, may notify the International Searching Authority to that effect any time prior to the issuance of the international search report. Thereafter, such notifications should be directed to the International Bureau. (PCT Rule 40.2(c).)◄

►(f) The international search report will be established only on those parts of the international application which relate to the invention first mentioned in the claims ("main invention") and those other parts of the international applications which relate to inventions for which additional fees have been timely paid (PCT Art. 17(3)(a) and PCT Rule 40.3).◄

58. By adding § 1.482 to read as follows:

►§ 1.482 Holding of lack of unity of invention.◄

►(a) The International Search Authority may not raise the objection of lack of unity of invention merely because an application contains several claims of the same category or several claims of different categories related as under PCT Rules 13.2 and 13.3.◄

►(b) Lack of unity of invention may exist in a single claim where the claim contains alternatives which are not linked by a single general inventive concept (PCT Rule 13.1).◄

►(c) Lack of unity of invention may be directly evident before considering the claims in relation to any prior art, or after taking the prior art into consideration, as where a document discovered during the search shows the invention claimed in a generic or linking claims lacks novelty or is clearly obvious, leaving two or more claims joined thereby without a common inventive concept. In such a case the International Searching Authority may raise the objection of lack of unity of invention (and limit the search to the invention first mentioned if no additional fees are paid).◄

►(d) Occasionally in cases which lack unity of invention, the examiner will be able to make a complete search for all inventions with negligible additional work, in particular when the inventions are conceptually very close and none of them requires a search in separate classification units. In those cases, the search for the additional inventions should be completed together with that for the invention first mentioned. All results should then be included in a single search report, and no objection of lack of unity should ordinarily be raised.◄

►(e) For unity of invention practice at the national stage see §§ 1.141–1.146.◄

PART 3—FORMS FOR PATENT CASES

59. By adding a new § 3.56 to read as follows:

►§ 3.56 Oath to be filed with United States Designated Office under 35 U.S.C. 371(c)(4).◄

►As a below named inventor, being duly sworn (or affirmed), I depose and say that: my residence, post office address and citizenship are as stated below next to my name;

I verily believe I am the original, first and sole inventor (if only one name is listed below) or a joint inventor (if plural inventors are named below) of the invention entitled: ____________ described and claimed in international application number ____________ filed ____________, and as amended on ____________ (if any) for which I solicit a patent;

I do not know and do not believe the same was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to my international application, that the same was not in public use or on sale in the United States of America more than one year prior to my international application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of my international application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months prior to my international application, and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns except as follows: ____________

____

Full name of sole or first inventor ____________

____

Inventor's signature ____________

Date ____________

Residence ____________

Citizenship ____________

Post Office Address ____________

____

Full name of second joint Inventor, if any ____________

____

Inventor's signature ____________

Date ____________

Residence ____________

Citizenship ____________

Post Office Address ____________

____

(Supply similar information and signature for third and subsequent joint inventors)

Signatures: ____________

____

Sworn to and subscribed before me this ____ day of ____________, 19____.

____

(Signature of notary or officer)

[SEAL]

____

(Official character) ◄

60. By adding a new § 3.57 to read as follows:

►§ 3.57 Declaration to be filed with United States Designated Office under 35 U.S.C. 371(c)(4).◄

►As a below named inventor, I hereby declare that: my residence, post office address and citizenship are as stated below next to my name;

I verily believe I am the original, first and sole inventor (if only one name is listed below) or a joint inventor (if plural inventors are named below) of the invention entitled: ____________ described and claimed in international application number ____________ filed ____________ and as amended on ____________ (if any), for which I solicit a patent;

I do not know and do not believe the same was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to my international application, that the same was not in public use or on sale in the United States of America more than one year prior to my international application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of my international application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months prior to my international application, and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns, except as follows: ____________

____

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor ____________

____

Inventor's signature ____________

Date ____________

Residence ____________

Citizenship ____________

Post Office Address ____________

____

Full name of second joint Inventor, if any ____________

____

Inventor's signature ____________

Date ____________

Residence ____________

Citizenship ____________

Post Office Address ____________

____

PART 5—SECRECY OF CERTAIN INVENTIONS AND LICENSES TO FILE APPLICATIONS IN FOREIGN COUNTRIES

61. By revising § 5.1 to read as follows:

§ 5.1 Defense inspection of certain applications.

►(a) The provisions of this part shall apply to both national and international applications filed in the Patent and Trademark Office except as otherwise specifically indicated. The filing of an international application designating a foreign country is considered to be a filing in a foreign country within the meaning of Chapter 17 of Title 35, United States Code.◄

►(b)◄ In accordance with the provisions of 35 U.S.C. 181, patent applications containing subject matter the disclosure of which might be detrimental to the national security are made available for inspection by defense agencies as specified in said section. Only applications obviously relating to national security, and applications within fields indicated to the Patent and Trademark Office by the defense agencies as so related, are made available. The inspection will be made only by responsible representatives authorized by the agency to review applications. Such representatives are required to sign a dated acknowledgement of access accepting the condition that information obtained from the inspection will be used for no purpose other than the administration of 35 U.S.C. 181–188. Copies of applications may be made available to such representatives for inspection outside the Patent and Trademark Office under conditions assuring that the confidentiality of the applications will be maintained, including the conditions that: (1) All copies will be returned to the Patent and Trademark Office promptly if no secrecy order is imposed, or upon rescission of such order if one is imposed, and (2) no additional copies will be made by the defense agencies. A record of the removal and return of copies made available for defense inspection will be maintained by the Patent and Trademark Office. Applications relating to atomic energy are made available to the [Atomic Energy Commission] ►Energy Research and Development Administration◄ as specified in § 1.14 of this chapter.

62. By revising § 5.3 to read as follows:

§ 5.3 Prosecution of application under secrecy order; withholding patent.

Unless specifically ordered otherwise, action on the application by the Office and prosecution by the applicant will proceed during the time an application is under secrecy order to the point indicated in this section:

(a) ►National◄ applications under secrecy order which come to a final rejection must be appealed or otherwise prosecuted to avoid abandonment. Appeals in such cases must be completed by the applicant but unless otherwise specifically ordered by the Commissioner will not be set for hearing until the secrecy order is removed.

(b) An interference will not be declared involving ►national◄ applications under secrecy order. However, if an application under secrecy order copies claims from an issued patent, a notice of that fact will be placed in the file wrapper of the patent.

(c) When the ►national◄ application is found to be in condition for allowance except for the secrecy order the applicant and the agency which caused the secrecy order to be issued will be notified. This notice (which is not a notice of allowance under § 1.311 of this chapter) does not require response by the applicant and places the ►national◄ application in a condition of suspension until the secrecy order is removed. When the secrecy order is removed the Patent and Trademark Office will issue a notice of allowance under § 1.311 of this chapter, or take such other action as may then be warranted.

►(d) International applications under secrecy order will be processed up to the point where the record and search copies are ready to be forwarded. However, the copies will not be forwarded to the Authorities or delivered to the applicant.◄

63. Section 5.11 is revised to read as follows:

§ 5.11 License for filing application in foreign country ►or for filing international application◄.

(a) When no secrecy order has been issued under § 5.2, a license from the Commissioner of Patents and Trademarks under 35 U.S.C. 184 is required before filing any application for patent or for the registration of a utility model, industrial design, or model, in a foreign country, ►or filing an international application,◄ or causing or authorizing such filing, with respect to an invention made in the United States, if:

(1) The foreign application ►or international application◄ is to be filed ►,◄ or its filing caused or authorizer ►,◄ before [an] ►a national◄ application for patent is filed in the United States, or

(2) The foreign application ►or international application◄ is to be filed, or its filing caused or authorized, prior to the expiration of six months from the filing of the ►national◄ application in the United States.

(b) When there is no secrecy order in effect, a license under 35 U.S.C. 184 is not required if:

(1) The invention was not made in the United States, or

(2) The foreign application ►or international application◄ is to be filed, or its filing caused or authorized, after the expiration of of six months from the filing of the ►national◄ application in the United States.

(c) When a secrecy order has been issued under § 5.2, an application cannot be filed in a foreign country ►, nor can an international application be filed,◄ in any case except in accordance with § 5.5.

64. By revising paragraphs (b) and (c) of § 5.14 to read as follows:

§ 5.14 Petition for license: corresponding U.S. application.

* * * * *

(b) Two or more United States applications should not be referred to in the same petition for license unless they are to be combined in the foreign ►or international◄ application, in which event the petition should so state and the identification of each United States application should be in separate paragraphs.

(c) Where the application to be filed abroad ►or the international application◄ contains matter not disclosed in the United States application or applications, including the case where the combining of two or more United States applications introduces subject matter not disclosed in any of them, a copy of the application as it is to be filed in the foreign country ►or international application as it is to be filed in the Receiving Office◄ must be furnished with the petition. If, however, all new matter in the ►foreign or international◄ application to be filed is readily identifiable, the new matter may be submitted in detail and the remainder by reference to the pertinent United States application or applications.

65. By revising § 5.15 to read as follows:

§ 5.15 Scope of license.

(a) A license to file an application in a foreign country ►or to file an international application◄, when granted, includes authority to forward all duplicate and formal papers to the foreign country ►or international authorities◄ and to make amendments and take any action in the prosecution of the ►foreign or international◄ application, provided subject matter additional to that covered by the license is not involved. In those cases in which no license is required to file the foreign ►or international◄ application, no license is required to file papers in connection with the prosecution of the foreign ►or international◄ application not involving disclosure of additional subject matter. Any paper filed abroad ►or before an international authority◄ following the filing of a foreign ►or international◄ application which involves the disclosure of additional subject matter must be separately licensed in the same manner as ►a foreign or international◄ [an] application.

* * * * *

66. By revising § 5.17 to read as follows:

§ 5.17 Who may use license.

Licenses may be used by anyone interested in the foreign ►or international◄ filing for or on behalf of the inventor or his assigns.

Dated: December 23, 1976.

C. MARSHALL DANN,
Commissioner of Patents and Trademarks.

Approved:

BETSY ANCKER-JOHNSON,
Assistant Secretary for Science and Technology.

DATED: January 6, 1977.

[FR Doc.77-1024 Filed 1-11-77;8:45 am]

federal register

WEDNESDAY, JANUARY 12, 1977

PART VIII

THE NATIONAL ARCHIVES OF THE UNITED STATES * 1934 *

FEDERAL ENERGY ADMINISTRATION

◆

ADDITIONAL PRICE INCENTIVES FOR TERTIARY ENHANCED RECOVERY TECHNIQUES; FINDINGS CONCERNING ADJUSTMENTS TO THE COMPOSITE PRICE FOR DOMESTIC CRUDE OIL AS A PRODUCTION INCENTIVE

Proposed Rulemaking and Public Hearing

FEDERAL ENERGY ADMINISTRATION

[10 CFR Part 212]

ADDITIONAL PRICE INCENTIVES FOR TERTIARY ENHANCED RECOVERY TECHNIQUES; FINDINGS CONCERNING ADJUSTMENTS TO THE COMPOSITE PRICE FOR DOMESTIC CRUDE OIL AS A PRODUCTION INCENTIVE

Proposed Rulemaking and Public Hearing

TABLE OF CONTENTS

I. INTRODUCTION

II. BACKGROUND OF THE INCENTIVE

III. FINDINGS CONCERNING COMPOSITE PRICE ADJUSTMENTS TO PROVIDE PRODUCTION INCENTIVES AND INCREASES IN THE PRICE OF "OLD" CRUDE OIL

A. *Composite Price Adjustment*

B. *Incentive for the Application of Tertiary Enhanced Recovery Techniques*

IV. THE NEED FOR TERTIARY ENHANCED RECOVERY INCENTIVES

V. PROPOSED AMENDMENTS AND ALTERATIVES

A. *Determination of What Consilitutes a "Tertiary Enhanced Recovery Project"*

1. Substantive Issues
   a. Categories of Techniques Entitled to Incentive Price Treatment.
   b. Additional Production Requirement for "Second Category" Techniques.
   c. Alternative: Automatic Qualification of "Second Category" Techniques for Modified (Upper Tier) Incentive Prices.
   d. Description of Qualifying Techniques (Generally).
2. Administrative Issues

B. *Determination of Quantities of Crude Oil Which Would Qualify as Tertiary Crude Oil—Incremental vs. "Current" or "Total" Production*

1. Substantive Issues
2. Administrative Issues

C. *Price to Which Tertiary Crude Oil Is Entitled*

D. *Events Occurring After Project Implementation—Effect of Prior Certification of a Project*

E. *Applicability of the Incentive to Existing Projects*

VI. OTHER MATTERS

A. *Qualitative Assessment of the Environmental Impacts of the Proposed Amendments*

B. *Conforming Amendments*

C. *Drafting Considerations*

VII. WRITTEN COMMENT PROCEDURES

VIII. PUBLIC HEARINGS

Proposed Amendments (Text)

I. INTRODUCTION

The Federal Energy Administration ("FEA") hereby gives notice of a proposed rulemaking and public hearing to amend the Mandatory Petroleum Price Regulations (10 CFR Part 212) to implement in part section 122 of the Energy Conservation and Production Act ("ECPA," Pub. L. 94-385, August 14, 1976), by providing price incentives for the application of certain high-cost enhanced recovery techniques for domestic crude oil, generally known as "tertiary enhanced recovery" techniques. In addition, as of August 14, 1976, the effective date of ECPA section 122, the statutory composite price for domestic crude oil may be adjusted to provide a production incentive in an amount which is no longer limited to 3 percent per year. The FEA proposes to make the findings required to apply the full amount of the adjustment permitted as a production incentive under ECPA section 122.

II. BACKGROUND OF THE INCENTIVE

The crude oil pricing policy of the Energy Policy and Conservation Act ("EPCA," Pub. L. 94-163) provided in essence that, beginning in February 1976 and continuing through May 1979, the weighted average or "composite" first sale price of domestic crude oil should not exceed $7.66 per barrel, except as permitted to be adjusted, within the limits specified in EPCA, to account for inflation and to provide incentives for the production of domestic crude oil. Under the EPCA, FEA has authority to make classifications of crude oil, and to provide for the pricing thereof, so as to assure that the actual weighted average first sale price of all domestic crude oil does not exceed the statutory composite price as it may be adjusted. Pursuant to these authorities and requirements, set forth in section 401 of EPCA (which added section 8 to the Emergency Petroleum Allocation Act of 1973 ("EPAA," Pub. L. 93-159)), the FEA proceeded with a three-stage plan of implementation.

In the first stage (41 FR 4931, February 3, 1976), the FEA established a general two-tier ceiling price scheme, consisting of "old," or "lower tier," and "new" and "stripper well," or "upper tier," crude oil classifications, intended to result in attaining the prescribed composite price of $7.66 per barrel in February.

In the second stage (14 FR 15566, April 13, 1976), the FEA adopted regulations which provided for gradual monthly increases in the ceiling prices of the two tiers of crude oil. These gradual increases were intended to accomplish an adjustment to the composite price, within the limits set by EPCA for adjustments not requiring Congressional review, to account for the effects of inflation and as an incentive for maintaining and increasing domestic production.

The limitations upon adjustments to the composite price which the FEA could implement without Congressional review, as set forth in EPAA section 8(d), were that: (1) The increase as a production incentive could not exceed 3 percent per year; (2) the increase to take into account the effects of inflation could not exceed the rate of inflation as measured by the most recent first revision of the GNP deflator; and (3) the combined increase as a production incentive and to take inflation into account could not exceed 10% per year.

In its second stage proceeding, the FEA recognized that the full 3% production incentive adjustment to the composite price was required, largely in order to prevent erosion in the real dollar prices for upper tier crude oil as a result of a declining percentage of lower tier crude oil in the "mix" of lower tier and upper tier crude oil first sale prices from which the composite price is derived.

In the notice commencing the third stage proceeding (41 FR 18873, May 7, 1976), the FEA proposed amendments to the crude oil price regulations to provide additional production incentives that would have required adjustments to the composite price in excess of the limitations referred to above, to be submitted to Congress for review in accordance with (then) section 8(e) of EPAA. The categories of incentives which were proposed were those specified in EPAA section 8(d)(3), *viz.*: (1) Discovery and development of high cost and high risk properties; (2) application of enhanced recovery techniques; and (3) sustaining production from marginal wells. With respect to enhanced recovery, FEA proposed to allow upper tier prices for amounts of crude oil produced by application of certain high cost enhanced recovery techniques ("tertiary" recovery, as distinguished from "secondary" recovery) which were in excess of the amounts that would have been produced by conventional primary and secondary recovery methods. Comments were requested on this proposal, and upon other alternatives for providing an enhanced recovery incentive, as well as upon the other production incentives proposed.

Comments were received from over 50 interested parties, substantially confirming the need for additional production incentives. (The substance of such comments, as they relate to the instant proposals, will be discussed where appropriate.) However, prior to the completion of action on the third stage proceedings, Congress enacted the ECPA, on August 14, 1976. Section 122 of the ECPA amended EPAA section 8 with respect to adjustments to the composite price as a production incentive and concerning price incentives for the application of tertiary enhanced recovery techniques.

First, section 8(d)(1) of EPAA, as amended by ECPA, now contains only an overall 10 percent limitation upon the adjustment to the composite price, which may be made both to take into account the effects of inflation and as a production incentive. The former 3 percent limitation upon the production incentive adjustment, within the 10 percent overall limitation, has been removed.

Second, in connection with the added pricing flexibility afforded by removal of the 3 percent production incentive limitation, the Congress established as a matter of high priority the implementation of incentives for the application of "tertiary enhanced recovery techniques." Specifically, subsection (j) was added to EPAA section 8, which provides as follows:

> (j) (1) As soon as practicable after the date of enactment of this subsection, taking into consideration the greater flexibility provided by the amendments relating to the produc-

> tion incentive adjustment under section 122 of the Energy Conservation and Production Act, the President shall promulgate such amendments to the regulation under section 4(a) (relating to price) as shall (A) provide additional price incentive for bona fide tertiary enhanced recovery techniques and (B) provide for the adjustment of differentials in ceiling prices for crude oil that are the result of gravity differentials which are arbitrary, discriminatory, applied on a regional or local basis without reasonably justification, or fail substantially to reflect current relative market valuations of such differentials.
>
> (2) As used in the subsection, the term "tertiary enhanced recovery techniques" means extraordinary and high cost enhancement technologies of a type associated with tertiary applications including, to the extent that such techniques would be uneconomical without additional price incentives, miscible fluid or gas injection, chemical flooding, steam flooding, microemulsion flooding, in situ combustion, cyclic steam injection, polymer flooding, and caustic flooding and variations of the same. The President shall have authority to further define the term by rule.

Congress directed that additional incentives for the application of tertiary recovery techniques be provided in recognition of the potential for increasing domestic production offered by such techniques. In the "Conference Report" on ECPA, the conferees stated as follows:

> The second form of production which the conferees believe deserve special treatment, as a result of removal of the 3 percent limitation on the production incentive factor, is production resulting from application of certain enhanced recovery techniques. A special need to encourage expanded use of high cost, enhanced recovery techniques has led the conferees to provide that this category of production be given high priority consideration in distribution of any price increases which may be permitted by reason of the removal of the 3 percent limitation on the production incentive factor. (Sen. Rep. No. 94-1119, 94th Cong., 2nd Sess. 58 (1976).) * * *
>
> The conferees are agreed that there exists great potential for augmenting domestic crude oil production through the application of enhanced recovery techniques. There is also general agreement that current economic circumstances would permit adjustments to the pricing mechanism contained in the Energy Policy and Conservation Act to give needed additional incentives for the application of high-cost enhancement techniques which today are not economical * * *.
>
> * * * the conference substitute seeks to obtain the objective of providing additional price incentives for high-cost enhancement techniques by equipping the Administrator with greater flexibility to provide for such incentives within the framework of the existing price regulatory structure. In so doing, the conferees seek to maintain the integrity of the pricing policies contained in the Energy Policy and Conservation Act while at the same time providing the President with the means of targeting additional price incentives to those extraordinary and high-cost enhancement techniques commonly associated with tertiary applications which are uneconomical under today's pricing regimen. Accordingly, the conference substitute removes the 3 percent limitation on production incentive adjustments to afford the President a greater flexibility to respond to an improving economy by giving greater price incentives to optimize domestic production. The conferees have identified, as matter of high priority, correction of gravity differential problems in the current price regulatory mechanism and the creation of additional price incentives for the application of bona fide tertiary enhancement techniques.[1] Thus, the President is directed, taking into consideration the greater flexibility as attends the removal of the 3 percent limitation, to amend the regulation which pertains to the price of domestic crude oil at the earliest practicable time to provide for these Congressionally identified priorities. (Sen. Rep. No. 94-1119, 94th Cong., 2nd Sess. 71 (1976).)

It was also understood that, in view of the increased authority for adjustments in the composite price conferred by ECPA, the FEA would not, prior to March 15, 1977, submit for Congressional review any action proposing an increase in the composite price in excess of 10 percent. (See Sen. Rep. No. 94-1119, supra, at 72.) Accordingly, the proposed incentives are intended to be accomplished within the 10 percent limitation.

In the meantime, collection of actual first sale price data indicates that the actual weighted average first sale price of domestic crude oil has exceeded the ECPA limitations on that price. Accordingly, FEA on July 6, 1976, discontinued the gradual monthly increases in lower tier and upper tier crude oil ceiling prices. See 41 FR 27730, July 6, 1976.

The suspension on increases was continued on September 3, 1976 (41 FR 37311), and again on November 30, 1976 (41 FR 53333, December 6, 1976), pending further corrective action to bring actual weighted average prices of domestic crude oil in line with the statutory composite price requirements. In addition, in view of the current situation in which it appears that actual weighted average prices continue to be in excess of the statutory composite price (as adjusted), the FEA on December 31, 1976 further continued the suspension on increases for lower tier crude oil and reduced ceiling prices for upper tier crude oil by 20 cents per barrel, both actions to continue through March 1977 pending the outcome of a full review by Congress of the operation of the crude oil pricing limitations of the EPAA. As stated in the Notice announcing such actions (42 FR 1456, January 7, 1977), if no changes in current limitations on crude oil prices were to result from such Congressional review, a further extension of the price levels established in the December 31 Notice through July 1977 would result, based on current projections, in the elimination of overages of actual weighted average prices above the statutory composite price level.

III. Findings Concerning Composite Price Adjustments To Provide Production Incentives and Increases in the Price of "Old" Crude Oil

A. COMPOSITE PRICE ADJUSTMENT

Section 8(d) of the EPAA provides that an adjustment to the composite price as a production incentive may be made only upon a finding that the adjustment

> * * * is likely to provide positive incentive for—
>
> (A) The discovery or development of high cost and high risk properties (including new wildcat properties, and properties located on the Outer Continental Shelf, properties located north of the Arctic Circle, deep wells and deep horizons in onshore or offshore properties, and properties operated by independent producers);
>
> (B) The application of enhanced recovery techniques to producing properties to obtain a level of production higher than would otherwise occur from those properties but for such adjustment; or
>
> (C) Sustaining production from marginal wells, including production from stripper wells.

In the Notice adopting the second stage amendments to provide for gradual increases in the composite price, the FEA found that use of the full price adjustment as a production incentive (then limited to 3 percent) was likely to provide positive incentive for (1) the development of high cost/high risk properties, (2) the application of enhanced recovery techniques to producing properties to obtain a level of production higher than would occur from such properties in the absence of that price adjustment, and (3) sustaining production from marginal wells, including stripper wells.

FEA made the following findings concerning crude oil prices: (1) the upper tier price level provides an important incentive for producers operating properties producing crude oil below the base production control level ("BPCL") to undertake enhanced recovery programs and for the development of new oil-producing properties; (2) there would be an inevitable decline in the relative proportion of lower tier or "old" crude oil to total production; (3) because the adjusted statutory composite price limitation applies to the weighted average of the two tier levels, the decline in the proportion of lower tier crude oil would exert a significant downward pull on upper tier prices; (4) use of the maximum 3 percent production incentive was necessary to counteract this downward pull so that the upper tier price incentive would continue to be as effective an inducement to enhanced recovery from existing properties and as effective a stimulant to development of new oil-producing properties.

The FEA's analysis indicated that the full 3 percent adjustment to the composite price then available to provide a production incentive would be required to be used over the course of the 39-month program almost entirely to take account of the impact on the composite price of changes in the relative proportions of upper and lower tier crude oil.

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[1] The conferees wish to emphasize that the use of the term tertiary is intended to refer to techniques of a generic class. It is not intended, in a chronological sense, to imply that traditional secondary applications must first be exhausted before use of these high cost and extraordinary enhancement techniques could qualify for additional price incentives.

Subsequent experience with the actual weighted average price of domestic crude oil, which has led to the requirement that the FEA suspend scheduled adjustments in the ceiling prices of such crude oil since July 1976 at least through March 1977 and has further required a 20 cent-per-barrel reduction in the prices of upper tier crude oil for the months of January through March of 1977, confirms the FEA's findings regarding the need to use the full production incentive adjustment. It also demonstrates that, without further adjustment to the composite price, it will be difficult to maintain existing incentives for present domestic production of crude oil and impossible to provide further price incentives for additional domestic production of crude oil. Since inflation continues to erode the current real prices of both upper and lower tier crude oil, and in view of the recent 20 cent per barrel reduction in ceiling prices for upper tier crude oil, the incentives even for maintaining current production are diminishing.

Since August 14, 1976, the effective date of section 122 of ECPA, the FEA has taken action to redefine and clarify the concept of "property," upon which BPCL determinations are based (41 FR 36172, August 26, 1976), to adjust gravity price differentials with respect to heavy California and Alaska crude oil (41 FR 48324, November 3, 1976), and to implement the exemption for stripper well crude oil mandated by ECPA section 121, including a redefinition of qualifying "stripper well property" (41 FR 48319, November 3, 1976). While it is not yet possible to quantify the precise effects of these actions upon the composite price, their combined effect is to increase the actual weighted average price of domestic crude oil. (The above-discussed measures regarding extension of the suspension on price increases and reduction of upper tier prices are, however, intended to account for these effects insofar as they are reflected in actual weighted average prices contained in data presently available to the FEA. The scope and duration of these corrective measures are based upon full use of the additional production incentive adjustments made available by ECPA.) The FEA also currently estimates that the effect upon the composite price of the incentives proposed herein for tertiary enhanced recovery projects will be as follows:

Year:	*Percent*
1976	0.0
1977	0.3
1978	0.9
1979	1.2

ECPA section 122 removed the specific 3 percent limitation on composite price adjustments for production incentives, effective August 14, 1976. In so doing, it made available as a production incentive an amount which varies inversely with the rate of inflation from quarter to quarter. That is, the amount available as a production incentive is the difference between the 10 percent overall limitation and the rate of inflation as measured by the "adjusted GNP deflator" provided for in EPAA section 8(d)(2). Applying the rate of inflation as measured by the adjusted GNP deflator for the second quarter of calendar year 1976 (5.1 percent), the amount of the production incentive permitted under the amended section 8 of the EPAA since August 14, 1976, has been 4.9 percent, or 1.9 percentage points greater than the 3 percent limitation on adjustments as a production incentive which applied when the second stage EPCA amendments were adopted.

Section 122 of the ECPA directs that, in view of the increased flexibility to provide production incentives, the FEA should proceed to implement adjustments to gravity price differentials and establish incentives for application of tertiary enhanced recovery techniques. As discussed above, appropriate gravity differential action has been taken, and by this Notice the FEA is proposing to implement the tertiary recovery incentive. However, the FEA's authority to adjust the composite price is not limited exclusively to providing for these particular incentives, but may be applied to provide production incentives generally. The FEA accordingly proposes to find that the above considerations, and the same factors which led it in the second stage EPCA proceedings to conclude that use was required of the full 3 percent production incentive then available, justify application of the full production incentive made available by ECPA beginning as of August 14, 1976, the effective date of section 122 of EPCA. This finding would be applicable to the continued use in the future of the full production incentive, as it may vary from time to time depending upon the rate of inflation.

The basis for the above findings and actions appears not only in the text of the EPAA, as amended by ECPA, but also in the legislative history of the ECPA. During consideration of the conference report on the amended bill which subsequently became enacted as the ECPA, Representative Brown engaged in the following colloquy with Representative Dingell, Chairman of the House Interstate Commerce Subcommittee on Energy and Power and an ECPA conferee:

> Mr. BROWN of Ohio. Mr. Speaker, I rise to engage the chairman of the subcommittee in a colloquy with reference to this legislation.
>
> Section 122 of this act deletes the 3 percent limitation of the Energy Policy and Conservation Act on crude oil price adjustments as a production incentive. Under this amendment to EPCA, the President may specify a fixed percentage figure as the production incentive—which, when added to the rate of inflation, is of course subject to the overall limitation of 10 percent contained in existing law. In the alternative, he may specify merely that the difference between 10 percent—or some other percentage less than 10 percent—and the rate of inflation is the production incentive, thus creating a flexible incentive that varies inversely with the rate of inflation.
>
> Section 8(d)(3) specifies certain findings which must be made before price adjustments as a production incentive may be made. The President, of course, would be required to support an alteration of the production incentive with initial findings. The conferees did not intend, however, that thereafter any new or additional findings under section 8(d)(3) be required each time the amount of the percentage price adjustment, which is permitted as a production incentive, changes automatically because of a change in the rate of inflation. Is my understanding in this regard correct?
>
> Mr. DINGELL. If the gentleman will yield, yes. That is correct.
>
> Mr. BROWN of Ohio. Section 122 adds a new subsection (j) to section 8 of the Emergency Petroleum Allocation Act of 1973, which directs the President to use the greater flexibility with respect to crude oil prices which is afforded by section 122 to provide additional price incentives for tertiary enhanced recovery techniques and to provide for certain adjustments of differentials in crude oil ceiling prices attributable to gravity differentials. Am I correct in stating that the two listed objectives are not the exclusive purposes for which the added pricing flexibility may be used by the President, and that the President's use of this added flexibility is not limited except to the extent that the priority objectives specified by section 122 must be met?
>
> Mr. DINGELL. This is a correct statement of the meaning of that provision. (122 Cong. Rec. H8582-83 (daily ed. August 10, 1976).)

As in the case of the second stage EPCA proceedings, the FEA proposes to implement section 122 of ECPA in a manner intended to provide to producers the greatest degree of timeliness and certainty with respect to future price levels as is possible under the constraints of the pricing policies of the EPAA, as amended, in order to stimulate overall domestic crude oil production to the maximum extent possible. The effects of particular regulatory actions and of variable factors which are not subject to FEA control upon overall price levels cannot be precisely known in advance, so that it is impossible to provide absolute assurance of future price levels. However, use of the full production incentive, effective August 14, 1976, and continued implementation of the full production incentive as it may change from quarter to quarter depending upon the rate of inflation, should help to relieve the downward pressures on current price ceilings and thus provide needed additional incentives to maintaining current production, as well as promote efforts to increase domestic crude oil production through tertiary enhanced recovery techniques and other activities identified in EPCA and the FEA's second stage EPCA rulemaking.

B. INCENTIVE FOR THE APPLICATION OF TERTIARY ENHANCED RECOVERY TECHNIQUES

Based upon the foregoing considerations, the FEA believes that use of the increased pricing flexibility afforded by the removal of the 3 percent limitation on adjustments to the composite price as a production incentive to implement this proposal to provide for a tertiary enhanced recovery incentive, as described in Section V., below, is likely to provide positive incentives for the application of enhanced recovery techniques to obtain a level of production higher than would otherwise occur in the absence of such incentives. The FEA proposes to so find.

In addition to the general findings required by EPAA section 8(d), EPAA section 8(b)(2) provides that an amendment to the Mandatory Petroleum Price Regulations which would increase the price of "old" crude oil from any properties may not be made, unless it is found that the amendment

(A) Will give positive incentives for (i) enhanced recovery techniques, or (ii) deep horizon development, for such properties; or

(B) Is necessary to take into account declining production from such properties, and

(C) Is likely to result in a level of production from such properties beyond that which would otherwise occur if no such amendment were made.

The proposed incentive for tertiary enhanced recovery would be applicable to properties producing lower tier, or "old" crude oil, as well as to properties producing upper tier crude oil. On the basis of the same considerations upon which the FEA proposes to make its findings concerning the production incentive price adjustment under EPAA section 8(d), it proposes also to find under EPAA section 8(b)(2) that any increase in the price of "old" crude oil which would result under this tertiary enhanced recovery incentive proposal will give positive incentives for enhanced recovery techniques and is likely to result in a level of production beyond that which would occur in the absence of the proposed amendments.

IV. THE NEED FOR TERTIARY ENHANCED RECOVERY INCENTIVES

The Notice commencing the third stage EPCA proceeding took note of the major findings of a recently completed study undertaken for the FEA (the "Lewin Study") concerning the potential for and factors bearing upon the application of tertiary recovery techniques. It was noted that:

> Among the major findings of the study, which included a detailed analysis of the 245 reservoirs in 175 fields, are that in the three states studied:
>
> 43.3 billion barrels of crude oil are technically recoverable through the year 2000, by tertiary recovery;
>
> Price strongly affects the amount of crude oil that could be recovered through tertiary recovery, with upper tier prices (maintained in real terms) reducing potential tertiary recovery reserves from 43.3 billion barrels to 30.5 billion barrels; and lower tier prices (maintained in real terms) reducing that amount to 5.2 billion barrels;
>
> Failure to adjust lower tier and upper tier prices for inflation would result in further loss of potential tertiary reserves; and
>
> Considerable amounts of tertiary production can be realized—as much as .4 to .7 million barrels per day by 1980, 1 to 2 million barrels per day by 1985, and up to 3 million barrels per day by 1990.

While several comments suggested that the study may be overly optimistic in regard to the potential volume of crude oil producible from tertiary techniques within the time period covered, there was substantial consensus regarding the propositions that: (1) There are substantial stores of crude oil in place which could be recovered with the application of high-cost tertiary recovery techniques, and which cannot be recovered otherwise; (2) the investment required to apply such tertiary recovery techniques is substantial, and entails a high risk of failure; (3) the decision to invest in such techniques is in large measure a function of crude oil prices, as affecting potential return on investment made; (4) therefore, adequate price incentives for such investment are required; (5) the present regulations do not provide adequate incentives to apply such techniques; and (6) additional incentives are therefore needed. As previously noted, in making the encouragement of tertiary recovery techniques a matter of "high priority," Congress as well has recognized the great potential for tertiary recovery techniques and the need for additional incentives to stimulate domestic production through the use of such techniques.

The FEA is continuing to analyze and up-date the Lewin Study, and to analyze various other quantitative estimates of the amount of additional crude oil production which can be projected from the provision of incentives to encourage tertiary enhanced recovery projects. Revised estimates of the amounts of additional production will be provided in the near future, when available. However, the FEA believes that the major findings of the Lewin Study continue to be generally and qualitatively valid. It currently estimates that, if timely action is taken to provide an incentive for such production, it could result in additional tertiary production of as much as 300,000 barrels per day by 1979, and substantially more in the ensuing decade.

The FEA recognizes that there are substantial lead times involved in applying tertiary recovery techniques, amounting to from one to three years, and that the major production increment resulting from any currently provided incentives will therefore be realized after the expiration date of the 40-month control period provided for by the EPCA. From this fact one non-producer commenter in the third stage EPCA proceedings argued that any present change to the regulations is inherently incapable of providing any greater incentive to enhanced production than is now present in the prospect of realizing market prices during the post-control period. However, FEA is preliminarily of the view that a present change to the regulations is required, to: (1) Provide earlier stimulus to those projects which would result in incremental production before the end of the control period; (2) assure continuity of production on those properties whose economic limit would otherwise be reached during the control period; and (3) provide as much certainty in the investment environment for producers as is possible within the current strictures of the EPAA.

The increased production of crude oil by the end of the control period—currently estimated to be as much as 300,000 barrels per day by the end of that period—is not the full measure of the crude oil which might be lost in the absence of current action to provide an incentive. If such an incentive is not provided, producers might abandon those properties which would become uneconomic (under the present pricing constraints) during the control period, even though substantial additional production through the application of tertiary enhanced recovery techniques would be technically feasible. If such abandonment were to occur, or if application of such techniques were otherwise to be postponed beyond a time at which producers could take advantage of the economies of existing production, the result might be that such techniques would never be applied to recover the additional crude oil in place, even at post-control period market prices. This is because, as noted in the Lewin Study, even market prices may not be sufficient to justify the high start-up costs of recommencing full-scale operations on properties on which production has been discontinued. Such start-up costs can frequently be avoided or minimized if tertiary enhanced recovery techniques are applied before primary and/or secondary recovery methods are terminated. Thus, the projected long-term enhancement of domestic crude oil production as a result of tertiary recovery techniques is in part dependent upon maintaining continuity of production from properties which might otherwise become uneconomic during the control period.

The legislative history of section 122 of the ECPA indicates that Congress recognized that current incentives are necessary to prevent premature abandonment of properties which might otherwise become uneconomical under the current regulatory regime. In debate upon the "Montoya Amendment" (subsequently modified to become section 122 of ECPA), Senator Domenici stated as follows:

> The technology of secondary and tertiary recovery, although it is new in the sense that you are recovering oil that you would not otherwise get, everyone ought to know that basically lengthy delays in applying it can cause an abandonment of the wells and the fields that you would have applied secondary and tertiary recovery methods to.
>
> It is not as if we can wait 15 years and do it. The fact is that the wells that are now running dry but are in place are actually to be used in the injection of chemicals and water into those pools and fields, so delays can indeed cause abandonment or, looking down the road, can cause extremely high new opening costs to get into these fields with secondary and tertiary recovery processes.
>
> The intelligent thing is to let them use these as the pool begins to dry and, as that well is an active one, to put in the chemicals or use the water injection process, and we just want to maximize that opportunity during the next 10 years as we move from a composite price to an open market.
>
> In that period we could indeed lose millions of dollars, millions of barrels, and opportunities would literally go down the drain. (122 Cong. Rec. S9516 (daily ed. June 16, 1976).)

That this perception was shared by the conferees is evidenced by the portions of the Conference Report on ECPA quoted in section II., above. The conferees understood that "tertiary" techniques meant extraordinary and high-cost technologies, and specifically recognized that such techniques might be applied before traditional secondary applications were exhausted.

Finally, the FEA believes that it is important to facilitate current investment in future production to the maximum extent, and that providing in the current regulations for such incentives will promote a degree of stability and certainty in the investment environment. In the third stage EPCA proceeding, as in the case of other proceedings, the FEA received numerous comments to the effect that increased investment in production is significantly discouraged by the uncertainty surrounding the future course of regulation, which tends to promote a "wait-and-see" attitude. These apprehensions are also reported in the Lewin Study. Although FEA cannot provide absolute assurance against subsequent modifications, the regulatory treatment of tertiary recovery proposed herein signifies recognition by the Congress and the FEA of the importance of such techniques, and should therefore provide as much certainty and stability in the investment environment as is now possible.

Comment No. 1. FEA solicits comments upon the foregoing general considerations which support this proposal, and upon the particular amendments and alternatives discussed in section V. To the extent possible, quantified estimates should be provided with respect to potential tertiary recovery projects of: (1) The amount of additional crude oil which would be produced through the use of tertiary enhanced recovery techniques under the proposed amendments and under the various alternatives; (2) the timing of the production response under the proposed amendments and under the various alternatives, in volumes per year through 1980 and in five-year increments from 1980 through 1990; and (3) the extent to which such additional crude oil would otherwise be lower tier oil, and the extent to which it would otherwise be upper tier oil under current concepts governing the manner in which such quantities are determined.

In connection with the foregoing, the FEA requests that commenters bear in mind and take account of the effects upon them of the recent actions regarding: (1) The redefinition of the term "property," noted in Section III. A., above; and (2) the exemption of first sales of stripper well crude oil from price controls, which permits such oil to sell at unregulated market prices (41 FR 48319, November 3, 1976).

To some extent, these actions may accomplish the same result as would be accomplished under the proposal or one or more of the alternatives being considered in this Notice. For example, crude oil which qualifies as "stripper well crude oil" could receive a market price regardless of whether it is produced as a result of a qualifying tertiary enhanced recovery project. For another example, if the upper tier (as opposed to market) price alternative is adopted, that portion of former lower tier crude oil which now qualifies as upper tier crude oil because of redefinition of the term "property" would not receive any additional price incentive even if produced as a result of a qualifying tertiary enhanced recovery project. To the extent that these considerations would affect the amount of additional crude oil production which can be attributed to the instant proposal or to any particular alternative being considered in this Notice, estimates of the production response to the proposal or to the relevant alternative should be reduced.

V. PROPOSED AMENDMENTS AND ALTERNATIVES

The FEA proposes to amend the crude oil price regulations to provide for a new category or classification of domestic crude oil, which would be permitted to be sold at market prices. Crude oil in this category, sometimes referred to in the ensuing discussion as "tertiary crude oil," would be that crude oil (1) which is produced as a result of a qualifying tertiary recovery project, and (2) which is incremental to (*i.e.*, in excess of) the amount of crude oil which could feasibly have been produced from the property in question through other than qualifying tertiary recovery methods.

Two categories of qualifying tertiary enhanced recovery projects are proposed. The use of certain specified tertiary recovery techniques would automatically qualify incremental production from the project to receive the incentive price, provided that the required amount of materials or processes (as specified in the regulations) are applied in conjunction with such techniques.

Use of certain other specified tertiary recovery techniques would qualify incremental production from the project for the incentive price only on a case-by-case basis, after prior review and approval by FEA. The basic criteria under which FEA would determine whether a project qualified would be that (1) the project must be uneconomical in the absence of the incentive, and (2) the project must involve a likely recovery of specified percentage of incremental production.

Producers applying either automatically or individually determined qualified techniques would be required to obtain certification as to the amount of incremental crude oil involved. Crude oil produced as a result of a qualifying project could not be sold as teritary crude oil unless and until a certification with respect to the project concerned had been received from the appropriate authority (in most cases the appropriate state agency, subject to FEA review) as to the amount of crude oil which would otherwise have been produced from the project in question by feasible primary or secondary recovery techniques.

The incentive would generally apply only to projects which are initiated after the effective date of the amendments adopted in this proceeding, and to expansion of existing projects which occur after the effective date of such amendments. However, existing projects may qualify for the incentive under limited circumstances, *viz.*, if there has been a material change of circumstances since the project was commenced and if the project would be abandoned in the absence of the incentive. However, any such existing project would be required to obtain prior certification, whether or not the project would have automatically qualified for the incentive if it had been commenced after the effective date of the amendments.

This proposal raises a number of significant and interrelated issues. The principal substantive issues include: (A) The types of enhanced recovery techniques which should qualify for the special pricing incentive; (B) the quantity of crude oil to which the special pricing treatment should be applied; and (C) the measure of the special pricing treatment which should be afforded to the quantities of crude oil thus determined. Related to these substantive issues are also significant issues concerning administrative feasibility. The FEA's major objective is, of course, to provide a meaningful incentive for the application of tertiary enhanced recovery projects to achieve additional domestic crude oil production, within the constraints of the crude oil pricing policies of the EPAA as amended. Thus, in the succeeding subsections of this section V. The specific issues and possible alternatives are identified for evaluation and comment.

Commenters should bear in mind that the effects of their comments with respect to one issue will vary depending on the resolution of other issues, and that the assumptions regarding these other issues should therefore be clearly stated. In particular, the following considerations should be addressed as fully as possible:

(1) Whether the recommended alternatives provide the most practicable and meaningful incentive, within the limitations of the law, for increased production through the application of tertiary recovery techniques; (2) whether they would provide the maximum feasible degree of certainty to producers as to the scope of pricing incentive which would be afforded; and (3) whether they are administratively feasible, including considerations of timeliness to facilitate the making of economic decisions and related determinations. Finally, as stated in section III., the FEA requests that, insofar as possible, commenters quantify their assessment of the amount and timing of additional crude oil production which could be expected to be elicited under the various alternatives.

A. *Determination of What Constitutes a "Tertiary Enhanced Recovery Project"*—1. *Substantive Issues.*—a. *Categories of Techniques Entitled to Incentive Price Treatment.* The FEA proposes two basic categories of enhanced recovery techniques which could qualify as "tertiary enhanced recovery projects." The first category consists of the following techniques, which would qualify automatically as tertiary enhanced recovery projects if the materials or processes applied are applied to the required extent (as specified in the proposed regulations): (1) Miscible fluid (e.g., CO_2

LPG, natural gas, alcohol) displacement; (2) microemulsion, or micellar/emulsion, flooding; (3) in situ combustion; and (4) steam drive injection.

The second category consists of the following techniques, which would qualify only if they were previously certified by FEA to be uneconomical in the absence of the incentive under the particular circumstances of the project concerned, and only if they were certified to be likely to result in a specified incremental recovery of crude oil in place: (1) Cyclic steam injection; (2) alkaline (or "caustic") flooding; (3) polymer augmented waterflooding; (4) carbon dioxide augmented waterflooding; (5) immiscible carbon dioxide flooding; and (6) those techniques listed in the first category, above, if the materials or processes applied were not to be applied to the specified extent required for automatic qualification.

The broad standards under which FEA would make its determinations concerning this second category of techniques would be: (1) That the project must be likely to result in a recovery of at least an additional 5 percent of the original crude oil in place, over and above that which would be recovered as a result of primary or any feasible secondary techniques; and (2) that the project could not, as a matter of sound economics, reasonably be expected to be pursued in the absence of the incentives provided for tertiary crude oil.

The FEA is also considering a basic variation of this proposal, under which first category techniques would continue to qualify automatically; and second category techniques would qualify automatically for purposes of receiving upper tier prices, but would require certification if the producer sought to obtain market prices.

The first category of techniques are proposed automatically to qualify on the basis of the FEA's tentative conclusion that such techniques are, as a class, properly characterized as involving "extraordinary and high cost enhancement technologies of a type associated with tertiary applications" which "would be uneconomical without additional price incentives," within the intendment of EPAA section 8(j) (ECPA section 122). Of course, this determination assumes that the materials and processes associated with these "first category" techniques are in fact applied to a substantial extent. Thus the "definitions" paragraph of the proposed regulation provides that the materials or processes must be applied to a specified extent in order for these techniques to qualify automatically (i.e., without certification) for the incentive. The second category of techniques are those which are generally regarded as tertiary applications, but which FEA has tentatively concluded cannot as a class be generally considered as uneconomical under the present regulatory provisions. However, provision is made for certification of these techniques as "tertiary enhanced recovery projects" eligible for additional incentives, in those circumstances in which there is a likelihood of significant incremental production and where the application of such techniques could not reasonably be expected to be undertaken in the absence of the additional incentives, i.e., where it is shown that in fact they "would be uneconomical without additional price incentives."

It should be noted that even though a certain technique may qualify automatically as a "tertiary enhanced recovery project," certification concerning the amount of incremental oil that could be derived from the project would be required for all projects. (This aspect of the proposal is discussed in more detail in section V.B.) The existence of this requirement might suggest that there is no substantial purpose to be served by permitting any technique to qualify automatically, since all proposed projects might be reviewed in their entirety during the process of determining the amount of incremental crude oil to be certified. However, the FEA is preliminarily of the view that adoption of certain "automatic qualification" criteria would avoid the necessity to undertake detailed and time-consuming economic analyses, in addition to analysis concerning the amounts of incremental crude oil which could be produced, in those cases in which it can be said as a rule that the techniques are clearly high cost and uneconomical. This would in turn facilitate earlier decisions and promote the earlier implementation of such projects. (However, because these automatically qualifying or "first category" techniques would not be subject to economic review on a case-by-case basis, the number and kinds of techniques which are assigned to this category, and the establishment of quantitative requirements regarding the extent to which the materials and processes must be applied in order for these techniques to receive automatic qualification, are intended to be conservative.)

Comment No. 2. The FEA requests comments upon the foregoing issue of automatic qualification, and particularly whether its identification of "automatic" techniques and and establishment of the specific quantitative requirements regarding the extent to which processes and materials must be applied in order to qualify automatically are both realistic and at the same time sufficiently conservative to preclude the automatic qualification of techniques which are generally economical under present conditions. In this connection, an alternative would be simply to describe the techniques which may constitute "tertiary enhanced recovery techniques," without providing any automatically qualifying techniques, and to determine on a case-by-case basis whether each particular project qualifies. While the FEA does not presently favor this alternative, for the reasons stated above, it solicits comments on such alternative. The FEA also requests comments upon whether it has properly assigned techniques to the "non-automatic" category, consistent with its intended conservatism.

b. *Additional Production Requirement for "Second Category" Techniques.* With respect to the second category of techniques, viz., those which would be subject to certification on a case-by-case, basis, the FEA proposes to require, not only that they be shown to be uneconomical under the particular circumstances, but also that they have a likelihood of resulting in recovery of at least an additional specified percentage (e.g., 5 percent) of the original crude oil in place, beyond that which would have been recovered using any feasible non-tertiary means. The basic purpose of this admittedly rough criterion is to provide some reasonable assurance that the proposed project would in fact result in a significant amount of incremental crude oil production, which it is the purpose of the incentive to accomplish. The FEA recognizes that such a quantitative production criterion is arguably unnecessary if, as proposed, only incremental crude oil is permitted to receive the incentive price. Under such an approach, the investment in a tertiary recovery technique would have to be privately cost-justified on the basis of returns from such incremental production, so that the increased production should necessarily be sufficient to justify the increased investment. In fact, this is one of the reasons that the FEA is proposing the "incremental" approach. However, there are countervailing considerations.

The process of certifying projects as eligible for the incentive is likely to be time-consuming, and likely to delay potentially significant projects, even if limited to those projects applying second category techniques. Therefore, a criterion of additional production which would screen out the less effective projects and limit certification efforts to the more effective projects, may be a justifiable means of using limited administrative resources to accomplish the greatest production gains. It should also be noted that, if an approach is taken in which some current (non-incremental) production is permitted to receive the incentive price (an option discussed in section V.B.), such a production criterion appears even more necessary.

If a production criterion is applied, questions may remain as to the most appropriate way of expressing and applying it. Thus, in view of the administrative difficulties and time consumption inherent in the certification process, the FEA might simply limit eligibility to those projects which are clearly major undertakings, in terms of both the investment required and the likely incremental production.

This might be expressed in the form of an incremental production criterion which is substantially higher than the proposed 5 percent, or the regulations themselves might contain no specific numerical criterion, but might provide for discretionary authority under which FEA could deny certification on grounds of insufficient additional production, with nonbinding guidelines as to quantitative thresholds. Moreover, whatever approach is taken in this respect, it may be appropriate to define the production criterion in terms of increased rates of production, in lieu of or in addition to increased ultimate production. A possible justification for a "rate of production" criterion is that it would emphasize those projects which would bring additional crude oil production in the relatively near term, during the period in which the economy and national security is presumptively more sensitive to shortages of crude oil.

Comment No. 3. The FEA solicits comments upon the foregoing. In particular, it requests comments concerning whether any production criterion of the nature discussed above is feasible and realistic; if so, whether a different figure is more realistic than the 5 percent proposed; whether the production criterion should be established in terms of increased rates of production rather than increased total production, or in terms of both; and whether the criterion should be applied also to projects involving first category tertiary recovery techniques. Comments are also requested upon whether the regulations should more appropriately provide discretionary authority for FEA to deny the incentive to otherwise qualified projects on grounds of insufficient additional production, with non-binding guidelines as to these quantitative thresholds. Also, in connection with these comments, the FEA requests comments concerning the advisability of adopting a policy whereby only a few clearly large-scale projects would be certified, as opposed to certification of a number of "small" projects which may involve only marginal increases in total national crude oil production.

c. *Alternative: Automatic Qualification of "Second Category" Techniques for Modified (Upper Tier) Incentive Prices.* As previously indicated, there is a basic variation on the two category proposal to which the FEA is also giving consideration. This is an alternative in which second category techniques would be permitted to qualify automatically for purposes of receiving upper tier prices, but would be required to be certified to receive market prices for incremental crude oil resulting from the application of such techniques.

There are several possible advantages to this alternative. First, it would be likely to reduce somewhat the overall certification burden upon the FEA, and thus promote speedier resolution of those cases in which certification is required.

In addition, automatic qualification of second category projects would have practical significance only to the extent that the incremental or "tertiary" crude oil would otherwise have been "lower tier" crude oil. Thus, it would have significance only in those cases in which the FEA would otherwise (under the certification approach) have been called upon to determine whether the project would be economical at lower tier prices. While there may be some cases in which a project would be economical at lower tier levels, this is far less likely to be true than where the substantially higher upper tier prices would otherwise be received for incremental production. Thus, a general presumption that such projects would be uneconomical at lower tier prices may be justified, even if not universally true, and adoption of such a presumption might be warranted by the administrative savings involved.

It should also be noted that this alternative would avoid situations in which prices were permitted to increase from lower tier to market levels, even though an increase only to upper tier levels would be sufficient to make the project economical.

Finally, it should be noted that this alternative involves essentially only a redefinition of the particular property's BPCL, on the basis of a detailed and particularized review of data with respect to that property. That is, the producer would be required to obtain certification of the amount of incremental production which would result from the project, as in all other cases of projects which automatically qualify for the incentive. In the course of making that determination, the certifying authority would establish a non-tertiary production baseline. This baseline would be the amount of crude oil which could feasibly have been produced in the absence of the tertiary recovery project and would therefore reflect, on the basis of detailed justifying data, the certifying authority's determination of the actual production decline curve for the property or affected portion thereof. Under this approach, the result may well be that the imputed non-tertiary production curve would be below the BPCL or adjusted BPCL calculated pursuant to present Subpart D. FEA has recognized that the Subpart D BPCL calculations will often not reflect the actual current production decline for any particular property, but for general pricing purposes the use of a uniform method of calculation has been considered necessary. However, an undertaking to apply a tertiary enhanced recovery technique to increase production might appropriately be considered an occasion for refining BPCL calculations for the property concerned. It should be noted that this consideration alone might justify upper tier prices for incremental tertiary production, regardless of whether the particular project is otherwise economical, since it would merely be the occasion for implementing the BPCL function in a more particularized manner.

Comment No. 4. The FEA solicits evaluation and comment upon the above alternative. In particular, potentially affected producers should provide information, quantified to the extent possible, concerning any projects which are now or will be undertaken at lower tier price levels, and those which would be feasible if upper tier prices (as opposed to market prices) were permitted for tertiary crude oil which would otherwise be lower tier oil.

d. *Description of Qualifying Techniques (Generally).* With respect to the description of eligible techniques generally, the FEA recognizes that two of the techniques set forth in ECPA section 122 are not expressly provided for in the proposed definitions, viz. "gas injection" and "chemical flooding." The FEA has preliminarily determined that these terms do not have a sufficiently specific meaning within the industry to provide a usable definition of eligible tertiary techniques. To the extent that various enhanced recovery techniques potentially includable within these broad terms are of a kind eligible to be given the special pricing treatment contemplated by the ECPA, they are intended to be included in the more specific definitions proposed to be used in the regulations. FEA has been given the authority under ECPA section 122 to define the terms used therein, with the objective, of course, of fulfilling the basic purposes of that section.

The FEA understands that actual enhanced recovery projects do not always fall neatly into one or the other of the above categories of tertiary recovery techniques, nor are they neatly divisible between tertiary and non-tertiary methods. For example, a "steam drive" technique, which is a first category technique, may be combined in a single project with "cyclic steam injection," which is a second category technique. In such cases there may be some difficulty in determining the amount of crude oil production which is attributable to each technique. Moreover, it might be rational, and might avoid these administrative difficulties, if such combined technique projects were considered to be of a single category at some appropriate point, for example when more than one half of the wells are used to apply one particular technique. A problem in taking this approach at the outset is that it would have to address a number of possible variations and would increase the complexity of the regulations. It might also result in the adoption of thresholds which may prove to be inappropriate. Therefore, the FEA presently prefers to approach these possibilities on a case-by-case basis, in the context of specific factual settings. However, comments upon typical possibilities, their significance in actual practice, and possible criteria for determining the appropriate treatment for such projects, are invited.

FEA is also cognizant of the fact that tertiary recovery technologies are likely to continue to evolve, with the result that any descriptive list of techniques may become obsolete with the passage of time. It is not the FEA's intention, in setting forth specific techniques, to preclude application of the incentive to new techniques as they evolve to the point of technical feasibility, and FEA anticipates that appropriate amendments to the regulations would be made as and when such technologies evolve, if they are of a type which should be eligible for the incentive. The FEA is of the preliminary belief that such an approach is preferable to providing a "catch-all" category in the present regulations, because it will permit the receipt of public comment upon the appropriate characterization of new technologies, and because it would not encourage applications for certification for existing enhanced recovery techniques which are secondary and not tertiary recovery techniques.

Several comments in response to the third stage EPCA notice urged that all techniques for enhanced recovery, whether secondary or tertiary, be considered eligible for an additional incentive. Some adverted to the possibility that existing secondary recovery projects might be prematurely abandoned because of the existing price ceilings, although their point was largely that the entire system of ceilings and controls was inhibiting domestic production on all fronts. Others pointed out that waterflooding was by far the most productive in terms of extraction of additional crude oil in place, after primary production. The FEA appreciates these contentions, but the scope of this proposed rulemaking is limited to providing additional incentives for tertiary enhanced recovery techniques, consistent with the ECPA. In the Conference Report on ECPA, the conferees stated:

> * * * The conferees could not however, agree to the provisions of the Senate amendment which would permit substantial price increases for commonplace secondary enhancement techniques such as water flooding and gas displacement. * * * (Sen. Rep. No. 94–1119, 94th Cong., 2nd Sess. 71 (1976).)

For this reason, although the incentive is designed to serve the functional purpose of promoting increased production, the FEA does not consider that it can adopt a purely functional definition which would permit all enhanced recovery techniques to qualify for the proposed incentive based upon the particular economic circumstances involved. Any price relief based upon economic hardship threatening abandonment of production in the case of non-tertiary techniques would have to come through the exceptions process or pursuant to a more general enhanced recovery incentive.

Comment No. 5. FEA requests comments as to whether the tertiary enhanced recovery techniques set forth above are sufficiently inclusive of techniques which are commonly understood to be "tertiary" (as opposed to secondary) techniques and which are or which may in particular circumstances be considered extraordinary, high cost and uneconomical under the present system. Comments are also requested on the adequacy of the general description of each particular type of technique to sufficiently limit and describe that technique.

2. ADMINISTRATIVE ISSUES

As noted previously, a producer that proposes to implement a project involving a technique in the second category would be required to obtain certification that the proposed project is a "tertiary enhanced recovery project" qualifying for the incentive prior to pricing any crude oil as tertiary crude oil. (In addition, a producer applying a technique in either category would be required to obtain prior certification of the amount of incremental crude oil which will result from application of the process. This aspect of the proposed provisions, and the administrative issues pertaining specifically to this aspect of the certification process, are discussed in section V.B., below.)

The requirement for certification raises several issues, some of which have been mentioned in 1., above, in connection with the proposed broad substantive standards for certification. The basic administrative issues are: (1) Whether there are feasible alternatives to a certification process, which would avoid the disadvantages of such an approach; (2) whether, assuming some certification process is necessary, there are procedures other than or in addition to those proposed which would help to streamline the certification process; and (3) again assuming the necessity for a certification process, what should be the specific method and standards by which the FEA would determine whether a proposed project would be uneconomical in the absence of the incentive.

The FEA recognizes that there are a number of disadvantages inherent in a certification process, the principal one being the costs and time delays attendant upon any system of prior administrative review. As proposed, a producer proposing to implement a project involving a technique in the second category would be required, first, to obtain certification (in most cases from the appropriate state authority) of the amount of incremental crude oil which would be produced, and then to obtain certification from the FEA that the project is a "tertiary enhanced recovery project" qualifying for the incentive. In contrast, a producer implementing a project involving a technique in the first category would be required only to obtain certification (subject to FEA review) of the amount of incremental tertiary crude oil.

FEA is desirous of minimizing the costs and delays potentially involved in these certification procedures, to the extent that it can feasibly do so consistent with the need to assure that only meritorious projects are provided the incentive.

The requirement that techniques in the second category be certified is proposed because the disadvantages of other identified alternatives appear to outweigh those involved in the certification process. Conceivably, the FEA could either permit all techniques, in both the first and second categories, to qualify automatically; or, as to techniques in the second category, it could attempt to set forth in the regulations a self-executing formula which producers could apply to determine whether their projects qualify. As stated, the FEA preliminarily believes that these alternatives have disadvantages which outweigh their potential advantages.

Based upon the FEA's preliminary assessment that techniques in the second category cannot be said to be generally uneconomical at all controlled price levels under present conditions, it appears that permitting these techniques automatically to qualify to receive the market price incentive would be unjustified, and contrary to the purpose and intent of ECPA. ECPA section 122 includes most of these techniques, but only "to the extent that such techniques would be uneconomical without additional price incentives." While the FEA does not construe this provision as prohibiting automatic qualification in appropriate cases, the purpose of the incentive is to elicit greater domestic production of crude oil, through the application of tertiary enhanced recovery techniques which would not and could not reasonably be expected to be undertaken under the present pricing regime. If a particular technique would be economical under the existing system, permitting crude oil produced as a result of such a technique to receive a higher market price would not appear to be consistent with the foregoing statutory objective. For these reasons, the FEA does not believe that automatic qualification of all techniques would be justified.

(However, as previously indicated, comments are requested on whether the specific techniques discussed are properly assigned to their respective categories.)

Also, as stated in section V.A.1.c., above, the FEA is considering an alternative which would permit second category techniques to qualify automatically for purposes of receiving upper tier prices, as opposed to market price incentives which would continue to require certification. The bases upon which such an alternative might be adopted are discussed in that section. As noted there, such an approach might substantially diminish the need to rely upon a certification process, and avoid the disadvantages of such a process.

A self-executing formula for determining whether a particular project is uneconomical could likewise conceivably avoid the need for certification of second category techniques. However, the FEA perceives several potentially serious disadvantages.

The first of these is that there is substantial doubt as to whether it is possible to provide a formula which is both uniform in its application and also responsive to the wide variation of circumstances in which different producers may find themselves. Inasmuch as producer investment decisions may vary substantially, depending upon the particular producer's views as to the best use of its capital and its current capital position, a generalized formula based, for instance, upon an assumed need to receive a specified rate of return upon investment, might unnecessarily preclude meritorious projects or qualify otherwise economical projects.

A second potential problem is that such a formula may not be sufficiently precise and detailed to avoid paralyzing uncertainties as to whether the FEA would subsequently agree with its application in any particular case. If a producer were subsequently held to have applied the formula improperly, it could be faced with a remedial order of substantial consequence. In order to avoid these uncertainties, it would be necessary to specify in detail all elements of the "rate base."

to specify the method of measurement of return, and to rigidly standardize accounting methods. To attempt to accomplish this in regulatory form likely would, in turn, postpone issuance of any regulations implementing the incentive far into the future.

Of course, in determining whether to certify a particular second category project, the FEA will necessarily have to apply some fairly specific methods and standards. Discussion of alternative methods which might be used in making such determinations is set forth subsequently in this section. However, the FEA does not presently contemplate that its determinations would be a matter of simply applying self-executing standards to specific facts, without regard to the totality of the circumstances in a particular case. Moreover, it believes that a preferable approach to the development of specific standards is to permit such standards to evolve with the FEA's accumulation of experience in the context of specific cases.

Finally, the application of flexible standards in the context of a prior certification process does not have the same risk of subsequent disallowance of the price incentive that exists in the case of a producer attempting to apply a formula without prior review by FEA. Greater producer assurance would result from a process in which specific prior approval is given to a particular project. For these reasons, the FEA presently favors an approach which would take the form of publication of guidelines, as and when appropriate, and prior review and approval pursuant to those guidelines, rather than the approach of setting forth a general formula in the regulations.

Comment No. 6. The FEA solicits comments upon whether a general formula approach would be feasible, and if so, what that formula and related specific requirements should be.

Comment No. 7. Comments and suggestions are also requested concerning the methods and standards under which the FEA should make its determinations as to whether a particular project should qualify, assuming that the certification process for second category techniques is retained. In this connection, several issues have been identified.

First is the question of what should be the method for determining whether a particular project would be uneconomical in the absence of the incentive. An obvious possibility is to apply a rate of return analysis, in which the FEA would determine whether the anticipated returns from incremental tertiary production sold at the applicable controlled price level would be reasonably adequate to compensate for the additional investment required. Such an approach would involve an assessment of the risks presented, in order to establish what would constitute a reasonable rate of return. For reasons previously stated, the FEA does not presently favor an absolute and uniform rate of return test. However, the beginning point in its analysis will in some part necessarily be general industry experience in this area. Therefore, the FEA requests comments concerning the criteria historically applied by producers in making these types of investment decisions, quantified to the greatest extent possible. Comments and suggestions are also requested concerning subsidiary but important issues such as whether the "rate base" should include only incremental investment, whether it should be limited to capital investment (defined as including only depreciable assets) or should also include incremental costs, either current or future or both, and similar matters. Suggestions in this matter should provide the reasoning underlying the positions taken.

Two points should be noted in connection with the foregoing. First, the FEA does not presently intend that any rate of return analysis would have a function other than that of permitting it to determine whether the proposed project is or is not economical. If it is determined not to be economical at the otherwise applicable ceiling price level, the producer would receive the market (or upper tier) price incentive; there would not be a price specially set by the FEA on the basis of its determination of what would provide a "fair return." In short, the certification process would not amount to a ratemaking proceeding. The reasons for this are esssentially administrative, and are discussed in section V.C. Second, it may be contended that the FEA should simply accept the representations of a producer that a project would not be undertaken unless the incentive is given, rather than engaging in analysis of the economics involved. Such an approach would undoubtedly minimize administrative costs and delays. However, since it is FEA's preliminary judgment that a number of projects would be economical, at least at upper tier price levels, and since the purpose of the incentive is generally to promote meritorious projects which are not economical under present conditions, the FEA believes that the application of its judgment will be necessary. However, for reasons discussed previously, the FEA would give substantial weight to a producer's assessment of its need, in determining whether the project "could reasonably be expected" to be undertaken in the absence of the incentive.

The FEA requests comments upon the foregoing, and upon whether there are feasible basic alternatives to a rate of return approach in determining whether a particular project is economical.

Comment No. 8. The FEA also requests comments and suggestions concerning ways of streamlining the certification process. In this connection, note should be made of the fact that the FEA has considered, but has tentatively decided against, centralizing certification responsibilities in one authority. It may be contended that such centralization should occur, in order to avoid the two-step process (for second category techniques) of obtaining certification (from appropriate state or federal authorities) of the amount of incremental crude oil involved, and then obtaining certification (from the FEA) that the project qualifies as a "tertiary enhanced recovery project." However, the FEA believes that centralizing both functions in FEA would result in administrative delays which would be unacceptable if other alternatives are available. The FEA does not presently have sufficient expertise to make in a reasonably expeditious manner the detailed technical analyses and determinations involved in determining the amount of incremental crude oil, in addition to undertaking the economic analyses required. On the other hand, it is FEA's understanding that the appropriate state and federal regulatory agencies do have this expertise, although their resources may vary. However, it is also FEA's understanding that such bodies do not traditionally undertake, and are not equipped to undertake, the sort of economic analysis discussed previously. Therefore, it does not appear feasible to merge the two functions in such authorities.

Of course, whether the proposed certification procedure will work depends vitally upon the resources and willingness of the appropriate authorities to undertake the technical analyses required in determining the amount of incremental crude oil which would result from a particular project. Copies of this proposal have been sent to those authorities that the FEA has preliminarily identified as possibly having the requisite expertise, for their analysis and comments. (These authorities are identified in section V.B., below.)

B. DETERMINATION OF QUANTITIES OF CRUDE OIL WHICH WOULD QUALIFY AS TERTIARY CRUDE OIL—INCREMENTAL VS. "CURRENT" OR "TOTAL" PRODUCTION

As proposed, only that crude oil which is produced as a result of the implementation of a "bona fide tertiary enhanced recovery project" and which is in excess of that amount of crude oil which would have been produced as a result of primary and any feasible secondary processes may receive the incentive price. In other words, the fact that crude oil is produced as a result of the application of qualifying tertiary recovery methods would not be sufficient to entitle that crude oil to receive the incentive price; only that crude oil which is in excess of what would have been obtained as a result of feasible non-tertiary methods would be so entitled.

The amount of such incremental crude oil would be required to be certified by the appropriate state or federal authority, subject to FEA review, prior to a producer's pricing any crude oil as tertiary crude oil. The incremental crude oil so determined would be expressed in terms of both the total incremental production over the life of the project and as a time-phased series of increments. Estimates of the amount of non-incremental production would also be expressed and certified on the same basis, and the producer could charge the incentive price only as and when production in any period exceeded the non-incremental production baseline.

The foregoing proposal generates a number of complicated issues and alternatives, substantive and administrative, which are discussed below and upon which the FEA seeks comments.

1. *Substantive issues.* The FEA recognizes that its proposal to permit only incremental crude oil to receive the incentive price might not provide adequate incentive for the implementation of all potentially valuable tertiary enhanced recovery projects. It also involves potentially significant administrative burdens. Therefore, the FEA is considering the following alternatives:

a. Permitting the incentive price for a proportion of total production from a property to which a qualifying tertiary recovery project will be applied, based upon an apportionment formula such as the ratio which the additional capital currently committed to the tertiary project bears to total capital invested in all production from that property. (A variation on this alternative might be to permit some amount of current production to qualify for the incentive price based upon the amount of additional capital committed to tertiary recovery. For example, it might be provided that X number of barrels per day may receive the incentive price for every Y thousand dollars committed to a qualifying teritary project.) Under this alternative a producer would be permitted to price a portion of the property's total production, both "current" (i.e., prior to actual production resulting from the tertiary recovery project) and "tertiary," at the incentive price.

b. Permitting the incentive price for all production "resulting from" the project, i.e., which is actually produced from the project area, regardless of whether such production, or a portion thereof, would have resulted had feasible non-tertiary techniques been applied. Under this alternative, no "current" (i.e., "pre-tertiary") production would receive the incentive price, but all production which actually results from the project after its implementation would.

c. Within the context of the "incremental" approach, permitting accelerated incentive pricing, i.e., imputing recovery of the total incremental amount disproportionately to earlier periods of production. Under this alternative, no "pre-tertiary" production would receive the incentive price, nor would a producer be entitled to receive the incentive price for all production occurring after implementation of the project; but the producer could receive the incentive price for a higher proportion of early production from the project than would be permitted under the proposed approach.

Each of the above alternatives raises a number of significant and complicated issues. Also, there are no doubt several possible variations of the above alternatives, as well as other possible approaches.

Comment No. 9. The FEA invites comments and suggestions on its proposal, the above alternatives, and other possibilities, in light of the observations made below.

The reasons for the FEA's proposal to permit only incremental oil to receive the incentive price are essentially three. First, it would not permit price increases until and unless an actual increase in production, over and above that which could reasonably be obtained in the absence of such price increases, occurs. Thus, it would correlate higher prices to the consumer with the benefits of increased production of domestic crude oil, which is the ultimate purpose underlying the incentive. Second, by requiring that the additional investment be justified entirely on the basis of returns solely attributable to that investment, there would be an automatic check on projects which would not be meritorious in themselves but which might otherwise be attractive in order to gain greater returns on non-teritiary production. Put another way, the "incremental" approach would tend to prevent effective price increases for current production that were out of proportion to the prospect of future tertiary production.

Finally, the "incremental" approach would tend to provide a continuing safeguard against possible token efforts at applying tertiary recovery techniques after a certification is given. If non-incremental crude oil were permitted to receive the incentive price, there would in certain cases be understandable inducements to reduce the scope of the continuing high cost tertiary effort if higher prices for non-tertiary crude oil could continue to be received. Since under the "incremental" approach a producer would be entitled to higher prices only for incremental crude oil, and since the volume of such incremental crude oil would be directly dependent, in theory at least, upon the magnitude of continuings efforts at tertiary recovery, there would be less need for FEA to monitor compliance with representations made at the time of certification.

However, the incremental approach has several potential disadvantages. Among the major substantive problems is that it takes no account of producers' needs to acquire the capital required for investment in tertiary recovery projects in advance of actually implementing and obtaining additional production from such projects. The lead time, from initial commitment to a tertiary project to its implementation and the eventual production response, is generally long, typically amounting to from one to three years. In the meantime, it would be necessary for producers to acquire and carry the costs of the necessary capital. One available method for raising such capital is to generate it internally, through current revenues. However, if this cannot be done at current price levels, that source of capital would not be available unless prices could be raised. An alternative method is to borrow the necessary capital. However, it would then likely be necessary to amortize and pay the current costs of such capital, which may be high in view of the risks involved. Thus, it is conceivable that adequate capital could not be raised in the absence of an increase in current prices.

Comment No. 10. The FEA solicits comments upon the actual significance of the above concerns regarding capital formation in today's environment. Such comments should be specific and quantified, to the extent possible.

A second substantive consideration is that the proposed incremental approach places the entire risk of failure of a project upon the producer. This, in turn, may discourage investment in many potentially valuable but speculative projects. Although this risk factor would certainly be considered in determining the appropriate rate of return for purposes of establishing (for second category techniques) whether a particular project is uneconomical, this may be small consolation to a producer whose project experiences a substantial shortfall and who is not in a position to spread his risk among several projects. FEA cannot remove all risk, or even the major burden of the risk, from producers. However, in order to elicit substantial response to the incentive it may be desirable to permit earlier recovery of investment than would occur under the proposed incremental approach.

It should be noted that only the first alternative listed above is responsive to issues regarding the need of producers to acquire capital in advance of implementation of a project. All of the listed alternatives may be characterized as providing a degree of risk mitigation, albeit in different degrees.

However, each of the three alternatives has its own disadvantages, which may ultimately persuade FEA to adhere to its proposed incremental approach. Thus, the first alternative, which permits a producer to price some of its "current" (pre-tertiary) production at the incentive price, would have none of the above discussed advantages of the incremental approach. At a minimum, this approach would pose complex issues in arriving at an apportionment formula that would assure that unjustified benefits to non-tertiary production, out of proportion to the risks and risk capital involved, were not created. In this connection, it should also be borne in mind that every increase in price for any "current" crude oil will further aggravate the existing downward pressure on ceiling prices of other current production. Since an increase in prices would not be strictly tied to additional production under this approach, the impact upon total production could conceivably be negative. Moreover, it is not clear that such an approach would substantially minimize the administrative concerns, discussed in section V.B.2., surrounding the incremental approach. It is not clear, for example, that a definite and uniform self-executing formula can be adopted which would avoid the need for a certification process.

As with the case of a self-executing formula for determining whether a project is economical, it would likely require great and complex specificity as to the elements to be incorporated in the formula. It would also have to provide sufficient certainty in application that it would not result in after-the-fact contrary determinations by FEA. *Comment No. 11.* However, the FEA invites comments and suggestions regarding possible formulae for implementing this alternative.

The second alternative would apparently avoid some of the administrative concerns pertaining to the proposed approach, by avoiding the need to differentiate between incremental production and that production which would have occurred through the use of feasible non-tertiary methods. Under this approach, all production resulting from the application of a qualifying technique would receive the incentive price. However, it does not appear that this alternative would obviate the need for a certification process altogether.

In the first place, those projects applying second category tertiary recovery techniques would have to be evaluated to determine whether they meet the incremental production criterion discussed in section V.A.1.b., unless that criterion is dispensed with. In addition, such second category projects would have to be evaluated to determine whether they would be economical without the incentive, and for this purpose it would be necessary to predict incremental recovery. Also, it would still be necessary, in those cases in which a property is subject to both tertiary and non-tertiary modes of recovery, to distinguish that portion of total production which is attributable to the tertiary technique. A possible compromise in this respect might be to assign production to tertiary technique on the basis of capital apportionment, along the lines of that discussed above with respect to the first alternative. However, such an approach is subject to the same qualifications as discussed above with respect to the first alternative.

The second alternative also presents the possibility of encouraging some inefficient uses of the incentive. Although it would not permit a producer to increase the price of crude oil prior to implementation of the tertiary recovery project, it would permit increased prices for crude oil which would have been produced even in the absence of such a project. This, in turn, could result in the undertaking of projects which would not be justified in terms of the additional production of crude oil, because it would present an opportunity to price other crude oil at higher prices.

The third alternative, which is a variation of the incremental approach, would in theory limit crude oil receiving the incentive price to incremental crude oil, but would permit such crude oil to be attributed to the early periods following implementation of the tertiary recovery project. The proposed "incremental" approach differs from this alternative in that it would permit only that production occurring after recovery of the certified non-incremental crude oil for the specified period to be priced at the incentive price. Under the third alternative, producers might be allowed to price a disproportionately high amount of "early" crude oil as incremental tertiary crude oil. This would presumably permit faster recovery of capital investment and result in a commensurate reduction of the risk to producers, making the undertaking more attractive. However, the rate of acceleration would have to be sufficiently limited that it would not result in incentives to abandon such projects prematurely, before any substantial incremental production actually occurs, or effectively remove all risk from the producer. *Comment No. 12.* The FEA requests suggestions as to possible formulae to accomplish these purposes, and comments regarding the effectiveness of this posisble approach. Suggested formulae should be accompanied by specific analyses of the manner in which they would operate in practice.

2. *Administrative issues.* As proposed, the amount of incremental crude oil which would be produced as a result of a qualifying tertiary enhanced recovery project would be determined and certified, and only such crude oil would be eligible to receive the incentive price as tertiary crude oil. The certification would be made by appropriate state or federal authority, subject to FEA review, and would be expressed in terms of both the life of the project and as a series of time-phased increments during the life of the project.

Crucial to the practicability of this proposed approach are the willingness and resources of existing state and federal regulatory authorities, other than the FEA, to make the required determinations. Therefore, as previously indicated, the FEA has forwarded copies of this notice to the authorities which it has preliminarily identified as possible certifying authorities, for their specific comments and suggestions. Copies have also been sent to and comments requested from the Interstate Oil Compact Commission ("IOCC"), an organization comprised of representatives from most if not all of the state agencies. These authorities, and the properties over which they would have jurisdiction for certification purposes, are as follows:

Authority	*Properties in*
Alabama State Oil and Gas Board.	Alabama.
Alaska Department of Natural Resources, Division of Oil and Gas.	Alaska.
Arizona Oil and Gas Conservation Commission.	Arizona.
Arkansas Oil and Gas Commission.	Arkansas.
California Department of Conservation, Division of Oil and Gas.	California.
Colorado Oil and Gas Conservation Commission.	Colorado.
Florida Department of Natural Resources, Bureau of Geology, Oil and Gas Section.	Florida.
Georgia Department of Natural Resources.	Georgia.
Idaho Department of Lands.	Idaho.
Illinois Department of Mines and Minerals, Oil and Gas Division.	Illinois.
Indiana Department of Natural Resources, Oil and Gas Division.	Indiana.
Iowa Geological Survey...	Iowa.
Kansas Corporation Commission, Oil and Gas Conservation Division.	Kansas.
Kentucky Department of Mines and Minerals, Oil and Gas Division.	Kentucky.
Louisiana Department of Conservation.	Louisiana.
Maryland Geological Survey.	Maryland.
Michigan Department of Natural Resources.	Michigan.
Mississippi State Oil and Gas Board.	Mississippi.
Missouri State Oil and Gas Council.	Missouri.
Montana Board of Oil and Gas Conservation.	Montana.
Nebraska Oil and Gas Conservation Commission.	Nebraska.
Nevada Department of Conservation and Natural Resources, Division of Oil and Gas Conservation.	Nevada.
New Mexico Oil Conservation Commission.	New Mexico.
New York Department of Environmental Conservation, Bureau of Minerals.	New York.
North Carolina Department of Natural and Economic Resources, Division of Resource Planning and Evaluation.	North Carolina.
North Dakota Geological Survey.	North Dakota.
Ohio Department of Natural Resources.	Ohio.
Oklahoma Corporation Commission, Oil and Gas Conservation Division.	Oklahoma.
Oregon Department of Geology and Mineral Industries.	Oregon.
Pennsylvania Department of Environmental Resources, Division of Oil and Gas.	Pennsylvania.
South Carolina State Development Board, Division of Geology.	South Carolina.
South Dakota Geological Survey.	South Dakota.
Tennessee Department of Conservation, Division of Geology.	Tennessee.
Texas Railroad Commission, Oil and Gas Division.	Texas.
United States Geological Survey.	Federal lands.
Utah Oil, Gas and Mining Board.	Utah.
Virginia Department of Labor and Industry, Division of Mines and Quarries.	Virginia.
Washington Department of Natural Resources.	Washington.
West Virginia Department of Mines, Oil and Gas Division.	West Virginia.
Wyoming Oil and Gas Conservation Commission.	Wyoming.

Such authorities have been identified on the basis of FEA's preliminary determination that they are likely to have the required expertise to make the determinations called for. They are taken from the 1976 Directory of State Oil and Gas Agencies, published by the IOCC. However, the FEA is not totally familiar with the extent of the resources available or which could feasibly be made available to such authorities; and there may also be other authorities capable of performing this function. Comments and suggestions in this regard are solicited.

The FEA has considered, but has tentatively rejected, the alternative of centralizing all certification functions in the FEA. The reasons for not proposing such centralization are discussed in section V.A.2. However, the FEA does propose to review all certification decisions concerning the amount of incremental crude oil eligible for the incentive price, and to provide that such certifications would not become "final" until there has been at least an opportunity for such review. A certification would become "final" after sixty (60) calendar days from the date of notification to the producer of FEA's receipt of the certification and supporting documentation, unless within that period the FEA questions or challenges the certification or some portion thereof. A producer would not be entitled to rely upon such a certification unless and until it becomes "final."

The essential reason for retention of a review function is to provide the FEA with the means and express authority to fulfill its overall responsibility for the operation of the incentive program. It is not contemplated that the FEA would ordinarily seek to substitute its judgment for the technical expertise of existing authorities; its review would be intended simply to provide a final check against any errors, omissions or apparent anomalies. It would also tend to promote at least rough uniformity among geographical areas.

Comment No. 13. The FEA recognizes that this two-step certification procedure presents the prospect of additional delay in implementing tertiary enhanced recovery projects. While the FEA presently believes that some such delays may be a necessary cost of promoting other objectives, it requests comments and suggestions concerning ways in which this process can be streamlined. In addition, as previously indicated, the FEA will be considering administrative factors among others in determining whether the "incremental" approach is the most desirable.

Comment No. 14. Evaluation and comments are also requested concerning the administrative feasibility of making the determinations called for. Several comments in response to the third stage EPCA proceeding argued that distinguishing the amount of crude oil attributable to tertiary recovery techniques from that attributable to other methods is extremely difficult, if not impossible. Under the proposal, the certifying authority would be called upon to project the amount of production which could have been obtained without application of the qualifying tertiary recovery project, both from continuation of production methods actually used prior to or in addition to the project and from any other non-tertiary methods which could have been (but have not been) applied. The "incremental" crude oil eligible for pricing as tertiary crude oil would be total crude oil production above these amounts. The FEA recognizes that these calculations may be complicated, and it requests comments on whether they can be accomplished within available resources and in a reasonably expeditious manner. However, FEA is preliminarily of the view that it should not be impossible to make these determinations, nor does it expect absolute precision in doing so.

The FEA also recognizes that, at least in theory, a determination of what non-tertiary methods would be feasible might involve economic analysis. For example, a particular secondary method of recovery might be or become uneconomic, even if technically feasible, because quantities of crude oil which could be produced thereby would not be sufficient to cover marginal costs. However, it is not FEA's intention to require the certifying authorities to undertake this kind of analysis. It proposes to call upon certifying authorities to consider only the technical feasibility of various non-tertiary recovery methods, and to base its projections accordingly. In other words, the non-incremental production baseline would include quantities producible from non-tertiary projects which are technically feasible, even if they would not be economical. Of course, this may result in a somewhat artificial situation, since in these cases it can be said that a portion of the "non-incremental" crude oil would not have been produced but for the tertiary enhanced recovery project. However, since non-tertiary recovery methods are generally less costly than tertiary methods, and since the quantities of crude oil necessary to make such methods economical are therefore comparatively small, the amount of crude oil thus "artifically" considered non-incremental may not be significant. On the other hand, if the certifying authorities were not to consider potential production from other methods, the result might frequently be that potential production from economical non-tertiary methods would be given an unwarranted incentive.

Comment No. 15. The FEA requests evaluation and comment upon the validity of the above observations concerning imputed production from non-tertiary methods. If they are considered not to be valid, suggestions are requested as to how potential production from non-tertiary methods which are economically feasible can be determined and accounted for. A possible solution, which would further complicate the certification process and is thus not presently favored, would be for the certifying authority to certify several quantities conditionally, subject to FEA determination as to whether a particular non-tertiary method would be economical.

Comment No. 16. Comments are also requested upon whether it is feasible to make the determinaion of incremental crude oil both in terms of total ultimate incremental production and in terms of a series of time-phased (monthly or quarterly) increments. The purpose of determining incremental production over a series of several time periods is simply to account for the fact that the additional production may occur in the form of an increased rate of production, as well as increased total production, and to permit incentive pricing of the incremental production as it occurs. Since the determination of incremental crude oil will presumably be based upon production curves, this approach preliminarily appears feasible to the FEA.

C. PRICE TO WHICH TERTIARY CRUDE OIL IS ENTITLED.

As proposed, tertiary crude oil, as determined under methods discussed in the preceding sections, would be entitled to be sold at a market clearing price. *Comment No. 17.* However, the FEA is also considering, and requests comments upon the alternative of permitting tertiary crude oil to be sold at upper tier prices. (In addition, as discussed in section V.A.1.c., the FEA is considering the alternative of permitting upper tier prices for "second category" tertiary enhanced recovery techniques, and market prices for "first category" techniques and for those second category techniques which can be shown to be otherwise uneconomical in specific situations. This alternative will not be specifically discussed here.)

In the third stage EPCA proceeding, the FEA sought and received many comments upon the alternatives of upper tier price versus market price. A substantial number strongly urged market price, contending that it is necessary to allow all of the stimulus the market can provide. It was also urged that provision of a market price would provide a more reliable investment climate, by producing greater investor confidence that the price of tertiary crude oil would be relatively free from the potential of future price "rollbacks," and would facilitate transition to uncontrolled prices generally. Under the EPCA, the FEA cannot provide absolute assurance against the necessity for revision of prices for tertiary crude oil, inasmuch as such crude oil has not been exempted from the composite price limitations of that Act and inasmuch as the pricing of any category of domestic crude oil must take into account and balance the impacts upon other categories. However, the FEA views these more subjective factors pertaining to investment decisions as real and legitimate, and it believes they are entitled to weight in its determination of which price level to select.

On the other hand, many commenters urged upper tier prices, stressing the need for substantial incentives. While many among this group did not specifically object to market prices, implying rather that upper tier prices would be sufficient, some commenters did object to market prices on the grounds of administrative difficulties. Principally, they argued that the creation of a third class of crude oil would make an already complex system of entitlements more complicated. However, such objections were lacking in specificity. Finally, some were concerned that market level prices would exert an undue downward pressure upon crude oil in the other tiers and thus be counterproductive. This concern was shared by some of those who favored market prices, in that their support for such prices was conditioned upon removing tertiary crude oil from the composite price computation.

In determining whether to adopt the market price as proposed or the upper tier alternative, the FEA will take into consideration a number of factors. First, it will attempt to determine, at least in general terms, the amount of crude oil which would be elicited from each approach. Obviously, upper tier prices will not provide any additional incentive for tertiary recovery on properties which are presently producing all upper tier oil. They may provide sufficient incentive for such techniques on properties producing lower tier oil, although market prices may produce an incentive for even greater recovery. *Comment No. 18.* The FEA therefore requests that producers provide their best estimates of their probable responses to each alternative, including the extent to which additional production would otherwise be lower tier oil and the extent to which it would otherwise be upper tier oil. The FEA seeks specific quantification, to the extent possible. In making these estimates, producers should take into account the effects of recent developments, such as the redefinition of the term "property" (41 FR 36172, August 26, 1976) and modification of criteria for determining whether a property qualifies as "stripper well property" (41 FR 48319, November 3, 1976), which may have the effect of increasing permissible prices of crude oil which would formerly have been considered "old" or "lower tier" crude oil.

To the extent that prices for crude oil produced from a property which is a candidate for a tertiary enhanced recovery project would no longer be affected by one or the other of the alternatives discussed herein because of these other developments, producers' estimates of production response to the applicable price incentive alternative discussed herein should be reduced.

The FEA recognizes that the Lewin study indicated, under the assumptions and conditions there stated, that more additional crude oil can be elicited at market prices than at upper tier prices. It also recognizes that many commenters believed the analysis of the production response to upper tier prices (as opposed to market prices) to be somewhat overly optimistic. It is largely on the strength of these observations, confirmed by many comments, that the FEA has proposed market prices. However, the FEA desires as much detail from producers as possible in order to check these conclusions against the current situation and to balance them against the possible disadvantages of a market price.

Second, the FEA will attempt to determine the impact of the two alternatives upon the composite price, and hence the impact upon permissible prices for other domestic crude oil. For this purpose as well the above production response data are requested, together with an estimate of the years in which the increased production will occur. As previously indicated in section III., the FEA currently estimates that the impact of a market price for tertiary crude oil upon the composite price would be as follows:

	Percent
1976	0
1977	.3
1978	.9
1979	1.2

However, the FEA wishes to test the validity of these data against producer estimates of how much increased production can be expected and whence (lower or upper tier) it would come.

Commenters are asked to bear in mind that the actual incentive price of tertiary crude oil, whether it be upper tier or market, must be included in the computation of the actual weighted average price of all domestic crude oil. The FEA does not have authority, under present law, to disregard the actual price of tertiary crude oil or to use an imputed value for such crude oil in making its composite price determinations.

Third, the FEA will consider the administrative difficulties involved in each approach. *Comment No. 19.* Commenters are requested to detail their concerns arising out of the implications for the entitlements program and any other problems of administration which they foresee with respect to each alternative. They are also requested to assess whether these concerns are of such magnitude that they would deter implementation of tertiary enhanced recovery projects or otherwise outweigh the benefits of the particular alternative considered. However, FEA does not presently believe that using market prices will present any new or different problems with respect to the entitlements program, since the recent exemption of stripper well crude oil has already necessitated the adoption of similar adjustments to the entitlements program to account for domestic crude oil permitted to be sold at market prices. See 41 FR 37599 (September 7, 1976) (proposal to implement stripper well oil exemption), and 41 FR 48319 (November 3, 1976) (final action implementing exemption). Similar adjustments have also been required for Naval Petroleum Reserves crude oil.

One alternative which the FEA has considered, but has tentatively decided against, is a "ratemaking" approach, i.e., an approach in which the FEA would specially set prices for crude oil derived from a qualifying project based upon its assessment of what would constitute a "reasonable rate of return" on investment in the tertiary recovery project. In theory, such an approach has some considerable appeal, but in practice it appears to the FEA to present unacceptable difficulties.

In theory, a ratemaking approach would permit the FEA to finely tune permissible prices to the economics involved, such that sufficient incentives are given but unjustified windfalls are prevented. However, the practical difficulties are many and significant. First, setting the price would require detailed and time-consuming proceedings, as a result of which many possible projects would likely encounter significant delays in the FEA. While it is true that the FEA may be engaging essentially in a "rate of return" analysis, for purposes of determining whether a project involving a "second category" tertiary enhanced recovery technique would be economical without the incentive, such an analysis would be required only for such "second category" techniques; and even as to such techniques the need for this analysis could be limited to those cases in which the producer seeks more than an upper tier price if the alternative discussed in section V.A.1.c. is adopted. Under that alternative, the implementation of a project involving a "second category" technique would automatically entitle incremental crude oil to receive upper tier prices, and only if market prices were sought would an economic analysis be required. Thus, under the proposed approach only a selected few cases would require this sort of analysis. Moreover, the need for detailed examination of every element of the calculation, not only of the "rate base" but also of the projected return, should not be as great under an approach in which the analysis is used as a check against meritless cases, in contrast to an approach in which the FEA would then be required to establish a specific return and determine how it would be realized.

Second, as history with ratemaking proceedings seems to establish, such proceedings are never really finished. Since an established price would necessarily be based upon estimates of future production, and other estimates and assumptions which may not be realized or may be exceeded, there would be constant (and often legitimate) pressure to increase or decrease prices which have been set. Thus, setting prices in this fashion would likely involve unacceptable consumption of time and undesirable delay. It would also tend to increase producer uncertainty and promote a "wait-and-see" attitude concerning even meritorious projects, or it may promote halting and piece-meal project implementation. In contrast, under the proposed approach a producer would have to accept a substantial portion of the risks, but should be encouraged to do so by reasonable assurance that increased prices within the broad general constraints of the upper tier or market limits will not be dependent upon prior administrative approval.

There are other considerations against adopting the ratemaking approach, such as the compliance and entitlement program difficulties which may be increased under a system in which there is a proliferation of lawful crude oil price "ceilings." For all of these reasons the FEA has preliminarily determined that this approach should not be pursued.

Comment No. 20. The FEA recognizes that to forego a strict rate of return approach for determining permissible prices may be to encourage the application of "second category" techniques at the expense of "first category" techniques, since under a single incentive price there would be a greater return from projects which are only marginally uneconomic under present conditions than from those projects which are clearly uneconomic because of their higher costs. However, the probability of this occurrence should be reduced to the extent that "first category" techniques promise greater additional crude oil recovery. In any event, on a preliminary basis it does not appear to FEA that the need to avoid these situations is sufficient to outweigh the practical disadvantages of adopting a rate of return approach. However, commenters are invited to provide their views as to whether the provision of a single incentive price applicable to all projects would cause producers to apply inefficient methods, and if so whether the magnitude of this effect would be sufficient to warrant the approach of setting a specific incentive price for each project.

D. EVENTS OCCURRING AFTER PROJECT IMPLEMENTATION—EFFECT OF PRIOR CERTIFICATION OF A PROJECT

As proposed, a "final" certification once given to a project would be subject, nevertheless, to certain express and implied continuing conditions. This would be true both for FEA certification that a particular project involving application of a "second category" tertiary recovery technique is a qualifying "bona fide tertiary enhanced recovery project," and also for the certification, required for all projects involving either first or second category techniques, of the amount of tertiary crude oil which may receive the incentive price.

Both the determination that a "second category" technique qualifies and the determination of the amount of incremental crude oil resulting from an eligible project would be expressly conditioned upon the producer's implementing the project, and continuing to implement the project, at the times and to the extent represented in its requests for certification. Such representations would be deemed to be incorporated in the certification, unless the certification expressly sets forth different conditions.

If a producer is found not to have adhered to such representations or express conditions, the certification would be subject to retroactive revocation or modification, as the FEA may determine to be appropriate. In addition, a project involving a "first category" technique must in fact meet the applicable requirements concerning the extent to which the processes or materials must be applied in order to qualify automatically, or be subject to retroactive disallowance of the incentive price. These conditions would be in addition to the condition that such certifications may be revoked or modified retroactively, if the producer is determined not to have sought certification in good faith, or not to have pursued the project in good faith. Moreover, a certification would be revocable or modifiable retroactively for any material error of which the producer knew or should have known, or which it caused. Any such revocation or modification would make a producer subject to appropriate remedial orders.

The above conditions are believed to be necessary because the certifications provided for under the proposed approach will of necessity be based not upon accomplished and verifiable facts, but rather upon the intentions of the producers. Since the producer is in the best position both to know what will be required and to control project implementation, it seems reasonable to require adherence to the material representations made by the producer in seeking certification as a condition to receiving the incentive price. These considerations are relevant even though the incentive price would apply only to incremental crude oil resulting from a particular project. The determination of the amount of incremental crude oil depends substantially upon the determination of what the actual production decline curve would have been in the absence of the project. Thus, in theory at least, the extent to which a producer receives the incentive price would directly depend upon the amount of production in excess of this curve, and the amount of such incremental production would in turn be directly dependent upon the extent to which the producer continues to apply the tertiary recovery processes. In this sense, there would be a continuing natural incentive for the producer to proceed diligently with the project after certification. Nevertheless, the projection of a production decline curve is only an estimate which could be erroneous. Thus, it conceivably could happen that a producer could receive the incentive price for a substantial quantity of crude oil without applying substantial efforts at tertiary recovery, primarily because of an overly pessimistic production decline projection. Hence, the condition that the producer actually proceed in accordance with its representations as to its proposed tertiary recovery activities.

The FEA recognizes that the above proposed requirements could create anomalous situations in which a producer might be induced to continue economically unsound actions with respect to projects that do not prove to be successful, in order to avoid the risk of revocation, unless there are means for effecting a rational adjustment. Of course, modification short of revocation may be appropriate in proper cases, and prospective pricing adjustments to remedy any past omissions might also be appropriate in some cases.

Comment No. 21. The FEA is concerned to avoid these anomalous situations, and also to avoid imposing unrealistic conditions upon producers, while at the same time meeting the objective of preventing unwarranted and unintended windfalls as a result of substantial miscalculation. Therefore, it requests comments and suggestions regarding alternative means of accomplishing these purposes.

It should be noted that nothing in the proposed regulations would prevent a producer from seeking recertificaton based upon the then known circumstances, and this is an obvious possible route to take. However, it would entail additional time and possible production delay, and could in practice amount to a series of "inverse" rate proceedings in which eligible quantities rather than prices are adjusted. Or it may be possible to adopt, either in the regulations or in the certifications or in both, a minimum level of proposed actions (a "flexibility factor") below which a producer could not go without seeking recertification. Another possibility is to make the failure to adhere to representations prima facie grounds for total prospective disallowance of the incentive price, subject to the producer's ability to show why no or a lesser disallowance is justified, and without prejudice to retroactive disallowance in the event the FEA determines that the producer has not proceeded in good faith.

The FEA recognizes the complexity of these considerations, and of the procedural issues they present, and requests the assistance of commenters in seeking to resolve them in the most productive manner.

Comment No. 22. In connection with the foregoing, the FEA also solicits comments as to the appropriate role to be played by the initial certifying authorities in monitoring post-certification actions of the producers, and in making any required post-certification determinations and adjustments.

It should also be noted that receipt of a certification cannot be construed as vesting in the recipient an unqualified right to receive a particular incentive price, even if nothing in the producer's conduct or circumstances amounts to "cause" (in the above-discussed senses) for revocation or modification. The price for tertiary crude oil, like that of other domestic crude oil which is not exempt from price controls, remains in principle subject to alteration, in order to effect compliance with the pricing requirements of the EPCA and other legislation, current or future. The FEA fully intends to preserve the incentive intact to the extent it feasibly can do so without jeopardizing the fundamental goals of national energy policy and the requirements of law; but under present law it cannot provide absolute assurance against any changes in the incentive regardless of future circumstances.

E. APPLICABILITY OF THE INCENTIVE TO EXISTING PROJECTS

Generally, the incentive is proposed to be made applicable only to projects which are initiated after the effective date of the proposed amendments (i.e., after the date of issuance of the amendments as a final rulemaking), and after receipt of the various required certifications discussed in the preceding sections. It would also be applicable to expansions of existing projects, if such expansions are undertaken after the effective date of the proposed amendments and after receipt of the required certifications. However, an existing project may be certified prospectively if: (1) It would be abandoned in the absence of the incentive; (2) because of a material and not reasonably foreseeable changes of objective circumstances; and (3) viewed prospectively under the facts and circumstances existing at the time certification is sought, it is eligible for certification under the criteria applicable to new projects. An existing project which is applying a first category technique would be required to obtain FEA certification as if it were a second category project. For these purposes, a project (or expansion) would be considered initiated at the time of the first expenditure or binding obligation for capital necessary to implement the project (or expansion).

There are a number of existing enhanced recovery projects which involve the application of techniques meeting the definitions discussed in section V.A.1.a. The FEA does not propose to consider such projects to be qualifying projects, except as discussed above, essentially for the reason that their very existence implies that they have been considered feasible in the absence of the incentive by the producers who have invested in them. The producers may have invested in these projects for a variety of reasons, sufficient in their minds to justify the project. To the extent that the expectations and assumptions upon which these decisions were based have generally been realized, the FEA believes that there should be no need to provide additional incentives. If, however, there has been a material and not reasonably foreseeable change of circumstances such that the producer would be forced to abandon the project, then provision of the incentive would be appropriate if the project would otherwise qualify for certification.

Comment No. 23. The FEA requests commenters' views on the foregoing limitations regarding existing projects, with particular reference to producer claims of intended abandonment and the requirement for "changed circumstances." The FEA recognizes that the objective of increasing total domestic crude oil production would be furthered by preventing producer abandonment of existing projects prior to exhausting production therefrom, and that provision of the incentive may help to prevent or delay such abandonment. It may also be argued that only those projects whose continuation is sensible and meritorious would be permitted to receive the incentive, since they would have to qualify on a prospective basis for certification, and that a "changed circumstances" requirement is therefore unnecessary. However, the "changed circumstances" requirement is intended to take account of two matters. First, it is intended to prevent the FEA from having to rely exclusively on producer claims of intended abandonment, and to require producers to justify their position with reference to reasonably objective and demonstrable facts. Second, it is intended to recognize that a producer who has already "sunk" substantial investment costs in a project is in a different economic position than one who has yet to decide whether to incur such costs, and to prevent use of the incentive simply to recover such sunk costs. While these considerations may be implicit in determining whether to certify a "second category" technique as being uneconomical in the absence of the incentive, they would not otherwise be considered with respect to "first category" techniques.

It may be, however, that the concerns which have motivated the FEA to propose a "changed circumstances" rule either are not significant or do not justify the time and administrative problems involved in making a "changed circumstances" determination, at least where continuation of the project would otherwise qualify for certification if viewed as a new project. Or there may be other and better methods of meeting these concerns. The FEA solicits comments and suggestions in this regard, and also with respect to whether there is substantial reason to believe that the incentive is necessary for existing projects.

VI. OTHER MATTERS

A. QUALITATIVE ASSESSMENT OF THE ENVIRONMENTAL IMPACTS OF THE PROPOSED AMENDMENTS

The probable impacts on the environment of the proposed amendments have been reviewed, and the FEA has concluded that the short-term effects (within the next six months) of the amendments will not significantly affect the quality of the environment. Within this period the FEA will have completed and made available for public comment an Environmental Impact Statement ("EIS"), which is presently in preparation, concerning any environmental consequences of actions which may be taken to the proposed amendments. FEA will then have an opportunity to incorporate conclusions based upon the EIS into any final regulations or revisions thereof, to account for any changes indicated by environmental considerations, prior to any substantial action being taken pursuant to such regulations.

The potential long-term effect of the proposed amendments will be increased prices for certain crude oil, a possible related slight decrease in consumption of crude oil and derivative products, and more extensive and intensive application of the techniques described in section V.A.1.a. to properties which will already have been in production (through primary and secondary means) prior to the implementation of tertiary techniques in response to the incentive provided herein. The latter effect may in turn involve the increased consumption of some chemicals, such as carbon dioxide, surfactants, and the like, which may be discharged into the environment; possible increased demands on resources such as water; and possible increase in emissions from power sources.

However, these will be realized in significant or measurable degree, if at all, only after a substantial period of time from the date of this proposal. As noted in the preceding sections, the lead times required to plan a project, accumulate capital, and commence application is substantial, amounting to from one to three years. As the notice commencing the third stage EPCA proceedings noted, even the more readily available techniques are not put into operation immediately, but require as much as one year in determining technical feasibility and parameters. It is possible that expansion of an existing project might be accomplished in less time, but this can be attributed to the proposed incentive only when done pursuant to certification as provided in the proposed regulations, and such certification would not occur until several months after the regulations become final. Accordingly, the FEA has determined that there will be no measurable short-term environmental impacts as a result of the proposed amendments, and that the final regulations will reflect or be amended to reflect any necessary changes dictated by environmental considerations prior to any substantial action having been taken pursuant thereto.

Pursuant to section 7(c)(2) of the Federal Energy Administration Act of 1974, Pub. L. 93-275, a copy of this proposed rulemaking has been submitted to the Administrator of the Environmental Protection Agency ("EPA") for his comments concerning the impact of this proposal on the quality of the environment. EPA comments have been received. In a letter to the Federal Energy Administration on December 2, 1976, EPA stated:

> [T]he Environmental Protection Agency has reviewed the Federal Energy Administration's draft notice of proposed rulemaking setting forth revisions to 10 CFR Part 212 "Additional Price Incentives for Tertiary Enhanced Recovery Techniques." The rulemaking revisions propose measures which will encourage the use of tertiary recovery techniques to increase domestic oil production. Waste streams from these techniques have the potential to cause significant environmental degradation unless innovative control technology or closed systems are incorporated into facility designs. In addition, if the use of tertiary recovery results in any discharge of pollutants to the waters of the United States, a National Pollutant Discharge Elimination System permit will be required for such discharge under the provisions of Section 402 of the Federal Water Pollution Control Act of 1972. We encourage FEA to address these concerns in the context of both the public hearing and final rulemaking on this proposal.

The FEA invites relevant observations or comments upon the matters noted in the foregoing EPA comments. Commenters should also be cognizant of the fact that the EPA is presently engaged in a rulemaking proceeding under the Safe Drinking Water Act, Pub. L. 93-523, directed toward eventual implementation of a permit system for certain underground injection activities. See 41 FR 36730, August 31, 1976.

B. CONFORMING AMENDMENTS

If the proposed amendments are adopted, the FEA intends to adopt necessary collateral amendments to the Mandatory Petroleum Allocation and Price Regulations to reflect the amendments proposed today, such as the entitlements provisions and the producer certification (of sales to purchasers) provisions. These conforming amendments are not set forth verbatim herein, as the FEA believes they will be of a relatively ministerial nature. The FEA understands that the necessity to alter the entitlements provisions has been one of the reasons assigned for opposing the market price approach to the incentive, but it does not understand such opposition to be directed at the formal aspects of adapting the entitlements provisions. The conforming amendments would largely parallel those proposed to be accomplished with respect to stripper well crude oil (41 FR 37599, September 7, 1976).

C. DRAFTING CONSIDERATIONS

Appended to this Notice are proposed regulations intended to implement the matters proposed by the FEA and discussed herein. They are complex in structure, but are intended to reflect FEA proposals on the wide variety of issues discussed in section V. In view of their complexity, however, they may have unintended consequences in application which potentially affected persons may be able more readily to ascertain. Therefore, the FEA urges close scrutiny of the proposed regulations. FEA would welcome identification of any potential problems, and suggestions as to how they may be avoided, as well as suggestions concerning ways in which the proposed regulations can be simplified.

VII. WRITTEN COMMENT PROCEDURES

Interested persons are invited to participate in this rulemaking by submitting data, views or arguments with respect to the proposals set forth in this notice to Executive Communications, Room 3309, Federal Energy Administration, Box JV, Washington, D.C. 20461.

Comments should be identified on the outside envelope and on documents submitted to FEA Executive Communications with the designation "Additional Price Incentives for Tertiary Enhanced Recovery Techniques; Findings Concerning Adjustments to the Composite Price for Domestic Crude Oil as a Production Incentive." Fifteen copies should be submitted. All comments received by Tuesday, March 1, 1977, before 4:30 p.m. will be considered by the Federal Energy Administration before final action is taken on the proposed regulations.

Any information or data considered by the person furnishing it to be confidential must be so identified and submitted in writing, one copy only. The FEA reserves the right to determine the confidential status of the information or data and to treat it according to that determination.

VIII. PUBLIC HEARINGS

FEA has determined that in addition to holding a public hearing in this proceeding in Washington, D.C., public hearings will also be held in FEA Regions VI (Dallas, Texas) and IX (San Francisco, California).

1. *National Hearings.* The Washington, D.C. hearing (the "National hearing") will be held beginning at 9:30 a.m. on Thursday, March 3, 1977 and continued, if necessary, on Friday, March 4, 1977, in Room 2105, 2000 M Street, NW., Washington, D.C. 20461, in order to receive comments from interested persons on the matters set forth herein. Any person who has an interest in the proposed amendments issued today, or who is a representative of a group of class of persons that has an interest in today's proposed amendments may make a written request for an opportunity to make oral presentation. Such a request should be directed to Executive Communications, FEA, and must be received before 4:30 p.m. on Tuesday, February 15, 1977. Such a request may be hand delivered to Room 3309, Federal Building, 12th and Pennsylvania Avenue, NW., Washington, D.C., between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday. Requests should be submitted in accordance with the "Request Procedures" set forth below.

2. *Regional Hearings.* The San Francisco regional hearing will be held at 9:30 a.m., Thursday, February 24, 1977, at the location specified below, and will be continued, if necessary, on Friday, February 25, at the same location. The Dallas regional hearing will be held at 9:30 a.m., Monday, February 28, 1977, at the location specified below, and will be continued, if necessary, on Tuesday, March 1, 1977 at the same location. Any person who has an interest in the proposed amendments issued today or who is a representative of a group or class of persons that has an interest in the proposed amendments issued today may make a written request for an opportunity to make an oral presentation. Such a request should be directed to FEA at the address given below for the appropriate Region, and in accordance with the "Request Procedures" set forth below. Requests must be received before 4:30 p.m. on Monday, February 7, 1977.

Region	Submit requests to testify to—	Hearing location
VI. Dallas, Tex.	FEA, Attention: Mr. Gary Andrews, 2626 West Mockingbird Lane, Dallas, Tex. 75235.	Executive Inn, Jubilee Room, 3232 West Mockingbird Lane, Dallas, Tex.
IX. San Francisco, Calif.	FEA Regional Administrator, Attention: R. Laffel, External Affairs Division, 111 Pine St., San Francisco, Calif. 94111.	Tishman Bldg., Room 2575, 525 Market St., San Francisco, Calif.

3. *Request procedures.* The following request procedures are applicable to both the National and Regional Hearings. Persons requesting an opportunity to make an oral presentation should submit their written requests to the appropriate address for the region in which they wish to appear. Requests should be labeled both on the document and on the envelope "Additional Price Incentives for Tertiary Enhanced Recovery Techniques; Findings Concerning Adjustments to the Composite Price for Domestic Crude Oil as a Production Incentive."

The person making the request should be prepared to describe the interest concerned, if appropriate, to state why he is proper representative of a group or class of persons that has such an interest, and to give a concise summary of the proposed oral presentation and a phone number where he may be contacted through Thursday, February 17, 1977. Each person selected to be heard will be so notified by the FEA before 4:30 p.m., Thursday, February 17, 1977 and must, if feasible, submit 100 copies of his statement to Regulations Management, FEA, Room 2214, 2000 M Street, N.W., Washington, D.C. 20461, before 9:00 a.m. on Wednesday, March 2, 1977, for the National hearing, and to the location of the hearing on the day the statement is scheduled to be presented, for the Regional hearings.

4. *Hearing procedures.* The FEA reserves the right to select the persons to be heard at these hearings, to schedule their respective presentations, and to establish the procedures governing the conduct of the hearings. The length of each presentation may be limited, based on the number of persons requesting to be heard.

An FEA official will be designated to preside at the hearings. These will not be judicial or evidentiary-type hearings. Questions may be asked only by those conducting the hearings, and there will be no cross-examination of persons presenting statements. Any decision made by the FEA with respect to the subject matter of the hearings will be based on all information available to the FEA. At the conclusion of all initial oral statements, each person who has made an oral statement will be given the opportunity, if he so desires, to make a rebuttal statement. The rebuttal statements will be given in the order in which the initial statements were made and will be subject to time limitations.

Any person who wishes to ask a question at the National or Regional hearings may submit the question, in writing, to the presiding officer. The presiding officer, will determine whether the question is relevant, and whether the time limitations permit it to be presented for answer.

Any further procedural rules needed for the proper conduct of the hearings will be announced by the presiding officer.

A transcript of the hearings will be made and the entire record of the hearings, including the transcript, will be retained by the FEA and made available for inspection at the Freedom of Information Office, Room 2107, Federal Building, 12th and Pennsylvania Avenue, NW, Washington, D.C., between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday. Any person may purchase a copy of the transcript from the reporter.

Emergency Petroleum Allocation Act of 1973, Pub. L. 93–159, as amended, Pub. L. 93–511, Pub. L. 94-99, Pub. L. 94–133 and Pub. L. 94–163, and Pub. L. 94–385; Federal Energy Administration Act of 1974, Pub. L. 93–275, as amended, Pub. L. 94–385; Energy Policy and Conservation Act Pub. L. 94–163, as amended, Pub. L. 94–385; E.O. 11790, 39 FR 23185.)

The Federal Energy Administration has determined that this document does not contain a major proposal requiring preparation of an Inflation Impact Statement under Executive Order 11821 and OMB Circular A–107.

In consideration of the foregoing, it is proposed to amend Part 212 of Chapter II, Title 10, Code of Federal Regulations as set forth above.

Issued in Washington, D.C., January 6, 1977.

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General Counsel,
Federal Energy Administration.

1. Section 212.73 is amended in paragraph (a) to read as follows:

§ 212.73 Lower tier ceiling price rule.

(a) *Rule.* Except as provided in § 212.74 with respect to new crude oil; except as provided in Subpart C of this part for exempt items; except as provided in § 212.75 for incremental crude oil resulting from the implementation of a qualified tertiary enhanced recovery project; and except as provided in § 212.76 for certain crude oil produced from unitized properties, no producer may charge a price higher than the lower tier ceiling price for any first sale of domestic crude oil.

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§§ 212.75–212.77 renumbered as 212.76–212.78.

2. Sections 212.75, 212.76 and 212.77, are renumbered §§ 212.76, 212.77 and 212.78, respectively.

3. A new § 212.75 is adopted, to read as follows:

§ 212.75 Incremental crude oil resulting from the implementation of a qualified tertiary enhanced recovery project.

(a) *Rule.* (1) Notwithstanding the provisions of § 212.73(a), and subject to the procedures and limitations hereinafter provided in this § 212.75, first sales of incremental crude oil resulting from the implementation or expansion of a qualified tertiary enhanced recovery project are exempt from the ceiling price limitations of this subpart.

(2) No domestic crude oil shall be eligible for pricing in accordance with paragraph (a)(1) of this section, unless the producer has obtained the required certifications pursuant to paragraph (d) of this section, and unless such oil is sold in accordance with the determinations and conditions of such certifications.

(b) *Applicability of rule to existing tertiary enhanced recovery projects.* (1) Except as provided in subparagraph (2) of this paragraph (b), only crude oil which is produced from a qualified tertiary enhanced recovery project initiated after the effective date of this section and after receipt of the required certifications, or crude oil produced from a qualified expansion, initiated after the effective date of this section and after receipt of the required certifications, of a previously existing tertiary enhanced recovery project, may qualify for pricing in accordance with paragraph (a) of this section. For purposes of this paragraph (b), a project or expansion is initiated at the time of the first expenditure or incurrence of a binding obligation for capital necessary for the project or expansion.

(2) Incremental crude oil produced from a project, or expansion thereof, which was initiated prior to the effective date of this section or prior to receipt of the required certifications, may qualify for pricing in accordance with paragraph (a) of this section only if:

(i) The producer affirms that he intends to abandon the project in the absence of permission to price production therefrom in accordance with paragraph (a) of this section;

(ii) There has been a material and not reasonably foreseeable change of circumstances since the time that the project or expansion was initiated; and

(iii) The project is certified under the criteria and pursuant to the procedures provided in paragraph (d) of this section. For purposes of determining eligibility for certification, an existing project shall be examined prospectively, on the basis of the circumstances existing at the time such certification is sought. Notwithstanding any other provision of this section, an existing project must be certified as being uneconomical under the otherwise applicable price ceiling, and as otherwise qualifying as a tertiary enhanced recovery project, whether or not such certification would have been required at the time the project (or expansion) was initiated.

(c) *Definitions.* For purposes of this section:

A "qualified tertiary enhanced recovery project" is a project for the enhanced recovery of crude oil, to the extent that such project involves the application of one or more of the following techniques (provided, that the expansion of a project existing on the effective date of this section and already applying one of these techniques shall be considered a bona fide tertiary enhanced recovery project only if such expansion is certified pursuant to paragraph (d) of this section as being uneconomical under the otherwise applicable ceiling price and as otherwise qualifying):

(1) Miscible fluid displacement, i.e., an oil displacement process in which gas or alcohol is injected into an oil reservoir, at pressure levels such that the injected gas or alcohol and reservoir oil are miscible. The process may include the concurrent, alternating, or subsequent injection of water. The injected gas may be natural gas, enriched natural gas, a liquefied petroleum gas slug driven by natural gas, or carbon dioxide. However, if the injected fluid is less than 25 percent of the reservoir pore volume being served by the injection well or wells (in the case of gas injection), or is less than 10 percent of the reservoir pore volume being served by the injection well or wells (in the case of alcohol injection), such technique shall be considered a "qualified tertiary enhanced recovery project" only if certified pursuant to paragraph (d) of this section as being uneconomical under the otherwise applicable price ceiling and as otherwise qualifying as a tertiary enhanced recovery project. Gas cycling, i.e., gas injection into gas condensate reservoirs, is not a miscible fluid displacement technique within the meaning of this section.

(2) Steam drive injection, i.e., the continuous injection of at least 50 percent quality steam into one set of wells (injection wells) to effect oil displacement toward and production from a second set of wells (production wells).

(3) Microemulsion, or micellar/emulsion, flooding, i.e., an augmented waterflooding technique in which a surfactant system is injected in order to enhance oil displacement toward producing wells. A surfactant system normally includes a surfactant, hydrocarbon, consurfactant, an electrolyte and water, and polymers for mobility control. If the size of the micellar slug (not including the polymers) is less than 10 percent of the reservoir pore volume being served by the injection well or wells, this technique shall be considered a "qualified tertiary enhanced recovery project" only if certified pursuant to paragraph (d) of this section as being uneconomical under the otherwise applicable price ceiling and as otherwise qualifying as a tertiary enhanced recovery project.

(4) In situ combustion, i.e., combustion of oil in the reservoir, sustained by continuous air injection, to displace unburned oil toward producing wells. If such combustion is not to be continued until at least 15 percent of the reservoir volume being served by the injection well or wells has been burned, such technique shall be considered a "qualified tertiary enhanced recovery project" only if certified pursuant to paragraph (d) of this section as being uneconomical under the otherwise applicable price ceiling and as otherwise qualifying as a tertiary enhanced recovery technique.

(5) If certified pursuant to paragraph (d) of this section as being uneconomical at the otherwise applicable price ceiling and as otherwise qualifying, polymer augmented waterflooding, i.e., augmented waterflooding in which organic polymers are injected with the water to improve areal and vertical sweep efficiency.

(6) If certified pursuant to paragraph (d) of this section as being uneconomi-

cal under the otherwise applicable price ceiling and as otherwise qualifying, cyclic steam injection, i.e., the alternating injection of steam and production of oil with condensed steam from the same well.

(7) If certified pursuant to paragraph (d) of this section as being uneconomical under the otherwise applicable price ceiling and as otherwise qualifying, alkaline (or "caustic") flooding, i.e., an augmented waterflooding technique in which the water is made chemically basic as a result of the addition of alkali metals.

(8) If certified pursuant to paragraph (d) of this section as being uneconomical under the otherwise applicable price ceiling and as otherwise qualifying, carbon dioxide augmented waterflooding, i.e., injection of carbonated water, or water and carbon dioxide, to increase waterflood efficiency.

(9) If certified pursuant to paragraph (d) of this section as being uneconomical under the otherwise applicable price ceiling and as otherwise qualifying, immiscible carbon dioxide displacement, i.e., injection of carbon dioxide into an oil reservoir to effect oil displacement under conditions in which miscibility with reservoir oil is not obtained.

"Certifying authority" means, with respect to certifications concerning the amount of incremental crude oil which will result from implementation of qualified tertiary enhanced recovery project, the federal or state governmental or regulatory body to whom the FEA has delegated responsibility for making the determinations required by paragraph (d) of this section for the property involved, or, in the absence of such delegation, the FEA. With respect to certifications concerning whether a project qualifies as a "qualified tertiary enhanced recovery project," the term means the FEA. The FEA shall in all events have an original power to perform the functions of a certifying authority, notwithstanding any delegation.

"Incremental crude oil" (resulting from the implementation of a qualified tertiary enhanced recovery project) means the amount of crude oil which is or will be produced as a result of the operation of such a project and which is in excess of the amount of crude oil which could have been produced from the property through technically feasible non-tertiary methods. As applied to expansion of existing tertiary enhanced recovery projects, the term means the amount of crude oil which is or will be produced as a result of the expanded project and which is in excess of the amount of crude oil which would have been produced in the absence of such expansion. The actual amount of incremental crude oil shall be determined pursuant to paragraph (d) of this section.

(d) *Certification requirements and procedures.* A producer desiring to initiate a tertiary enhanced recovery project, or to expand an existing project, shall obtain final certification of the amount of incremental and nonincremental crude oil which will result from the implementation of such project, prior to charging any price in excess of the ceiling which would otherwise be applicable to such crude oil under § 212.73(a) or § 212.74(a). In addition, such producer shall obtain certification that the project (or expansion) is a qualified tertiary enhanced recovery project, except to the extent that such certification is not required under paragraph (c) of this section by reason of the technique applied. (However, notwithstanding that such certification is not required by reason of the technique applied, prices in excess of the ceiling price which would be applicable but for this § 212.75 may be disallowed under subparagraph (5)(ii) of this paragraph (d).) The general procedures to be followed in obtaining such certifications, and the limitations and conditions upon any such certifications, are set forth in the ensuing subparagraphs. As used herein, the term "certifying authority" shall signify the authority determined to be appropriate for the particular certification being sought, as provided in paragraph (c) of this section.

(1) The producer shall submit an application for certification to the certifying authority. The producer shall have the burden of establishing entitlement to certification, and shall submit all data, required by these regulations or guidelines issued pursuant thereto or reasonably demanded by the certifying authority, necessary to enable the certifying authority to determine whether it can make the findings and certifications required by subparagraph (2) of this paragraph.

(2) (i) The certifying authority shall determine whether any and how much crude oil qualifies for pricing in accordance with paragraph (a) of this section. In making such determination, the certifying authority shall apply the criteria set forth in subparagraph (2)(ii) of this paragraph and any guidelines issued pursuant to paragraph (e) of this section. The certifying authority shall exercise its independent judgment, and may refuse certification or grant certification in whole or in part. It shall base its decision upon the data submitted to it by the producer, but in determining whether to deny certification or to limit certification to an amount less than that requested by the producer may rely upon any other reliable information available to it and made known to the producer.

(ii) In determining whether and to what extent to certify a project, the certifying authority shall determine: (A) Whether the project or expansion thereof qualifies as a qualified tertiary enhanced recovery project within the meaning of paragraph (c) of this section; and (B) the estimated amount of incremental and non-incremental crude oil (as defined in paragraph (c) of this section) which will result from such project or expansion. The amount of incremental and non-incremental crude oil shall be expressed in terms of both the total amount of incremental and non-incremental recovery over the life of the project and as a series of time-phased (per month or quarter) incremental and non-incremental production estimates, commencing with the time that the project is estimated to begin producing incremental crude oil. The certifying authority shall not certify a project as a qualified tertiary enhanced recovery project unless it is determined that: (*1*) Under all the circumstances, the producer could not reasonably be expected to undertake (or expand) the project in the absence of an ability to charge prices for the expected incremental crude oil in accordance with pargaraph (a) of this section, because the project would not be economical under the otherwise applicable ceiling price; and (2) the project (or expansion) is estimated to result in a recovery of incremental crude oil in an amount of at least 5 percent of the original crude oil in place.

(3) If the certifying authority determines to certify the project and an amount of incremental crude oil as above, it shall so provide in writing. Such certification shall specifically include the amount of incremental crude oil, expressed in time-phased increments as provided in subparagraph (2)(ii), of this paragraph, and the amount of non-incremental crude oil which will be produced during the same periods. By separate memorandum, the certifying authority shall concisely recite the data relied upon, the criteria applied, and the reasoning and methodology by which its conclusion was reached. The producer shall thereupon forward to the FEA the certifying authority's determination and certification, its supporting memorandum, and all documents and data submitted by the producer in support of its application as well as any other data relied upon by the certifying authority.

(4) The FEA shall have the plenary power to review the certifying authority's action and to make such modifications or de novo determinations, or to remaind for further consideration, as it determines to be proper on the basis of the record before it or any other information available to it. The FEA shall act upon the matter, if at all, within 60 days of its acknowledgement to the producer of receipt of the materials specified in subparagraph (3) of this paragraph. If the FEA does ont notify the producer in writing of any adverse action within such 60-day period, the producer may treat the certifying authority's certification as final. An "adverse action," within the meaning of the preceding sentence, is any negative determination (including a reduction in amounts or change in timing of incremental oil production), proposed negative determination, any challenge to or question concerning the propriety of the certification or the adequacy of the materials to support such certification, or any demand for additional information. Notwithstanding any of the foregoing, no certification shall be final unless and until all other certifications required under this § 212.75 have been made.

(5) (i) A producer may charge the price permitted for incremental crude oil under paragraph (a) of this section

only after receipt of and strictly in accordance with the terms of a final certification. In particular, the producer may not treat any crude oil as incremental crude oil until the amount of crude oil produced during a particular period exceeds the amount of non-incremental crude oil established for that period in the certification.

(ii) A final certification shall be subject to revocation or modification, at any time and either retroactively or prospectively or both, as and to the extent that the FEA determines to be appropriate: (A) If the producer fails to implement its proposed project at the times and to the full extent specified as the basis upon which such certification was given (and the producer's representations in applying for certification shall be deemed to be the specified basis for certification unless the certifying authority specifies otherwise); or (B) if the producer does not implement the project in good faith; or (C) if certification was given on the basis of a material error of which the producer knew or should have known, or to which the producer contributed. Notwithstanding that a particular project is not required to obtain certification as a qualified tertiary enhanced recovery project under this § 212.75, prices charged under the provisions of paragraph (a) of this section for crude oil from that project may be disallowed, on the same grounds and to the same extent as provided in the preceding sentence, as if such project had been certified on the basis that the producer would meet the applicable quantitative criteria set forth in paragraph (c) of this section for the technique in question and that the producer would otherwise implement the project as described in its application for certification of the amount of incremental crude oil to be derived from such project.

(e) *Additional procedures and criteria.* The FEA may from time to time publish or otherwise make available to certifying authorities, producers and the public, additional procedures to be followed and criteria to be applied in making the determinations provided for in paragraph (d) of this section.

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